

[QUARTERLY STATEMENT, JULY, 1891.]

THE PALESTINE EXPLORATION FUND.

NOTES AND NEWS.

THE office of the Fund has been transferred to 24, HANOVER SQUARE, W., where the most interesting of the objects collected from time to time by the officers of the Fund will be exhibited. The Rev. Greville J. Chester has kindly promised his advice and assistance in arranging the objects.

Herr Schick having recovered from an indisposition of some duration, has continued his researches as opportunity offered. Unfortunately the surreptitious removal of the Siloam inscription has made the Turkish authorities suspicious, and the excavations in connection with the "second Siloam aqueduct" have had to be discontinued. He sends an account of his examination of the recently observed arch in "Solomon's stables" and of other interesting matters.

Mr. G. R. Lees having forwarded a photograph of this arch, a reproduction of the photograph is published in the present number, together with the promised paper of Mr. T. Wrightson, M.I.C.E.

The visit of Professor T. Hayter Lewis to Jerusalem last year has enabled him to furnish a valuable paper on the "Ruins of the Church on the Skull Hill, Jerusalem," which will be found at page 211.

Mr. F. J. Bliss continued the excavations at Tell el Hesi until the advancing season of harvest made it impossible for him to obtain labourers. He has since

been occupied in writing a detailed report of his work which will be published in the October *Quarterly Statement*.

According to the *Jewish Chronicle* the Jaffa and Jerusalem Railway has been opened as far as Ramleh.

On the occasion of his visit to Edinburgh to receive the honorary degree of LL.D., which has been conferred on him by the University of that city, Major Conder delivered a lecture in the Freemasons' Hall on Palestine Exploration. Sir William Muir presided, and there was a large attendance. On the motion of the Rev. J. G. Cunningham, seconded by the Rev. Professor Duns, Major Conder was cordially thanked for his lecture.

Messrs. Kegan Paul and Co. have just issued a work by Mr. George St. Clair, F.G.S., on "Buried Cities and Bible Countries." It contains numerous maps and drawings, several of which have been lent by the Fund. It will be remembered that Mr. St. Clair was for many years one of the authorised lecturers for the Fund.

Mr. F. J. Bliss has furnished an elaborate paper on "The Maronites," which will shortly be published.

It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received to twelve guineas. The Committee are pledged never to let any copies be subscribed under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wâdy 'Arabah" has been completed and sent out to subscribers.

The following gentlemen have kindly consented to act as Honorary Local Secretaries :

John Whitehead, Esq., Esplanade, Guernsey.

A. B. Lloyd, Esq. (in the place of Mr. Greenwell, resigned), for Newcastle-on-Tyne.

The Committee have to acknowledge with thanks the following donation to the Library of the Fund, viz. :—

“Itinerarium D. Beniaminis cum Versione et Notis Constantini L’Empereur ab Oppyck, S.T.D. et S.L.P. in Acad. Lugd. Batava,” from the Rev. George H. Culshaw.

The books now contained in the Society’s publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 16) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 Os. Od., carriage paid to any part in the United Kingdom only*) :—

By Major Conder, R.E.—

- (1) “Tent Work in Palestine.”—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years’ experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) “Heth and Moab.”—Under this title Major Conder provides a narrative, as bright and as full of interest as “Tent Work,” of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth ; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder’s “Syrian Stone Lore.”—This volume, the least known of Major Conder’s works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.

- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.
- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Fahil." The ancient Pella, the first retreat of the Christians; with map and illustrations.
- (10) Names and Places in the Old and New Testament and Apocrypha, with their modern identifications, with reference to Josephus, the Memoirs, and *Quarterly Statements*.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.
- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of 22 years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.
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By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."
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The new map of Palestine, so long in hand, is now ready. It embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament,

Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting will be extra (*see Maps*).

Branch Associations of the Bible Society, all Sunday School unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

The income of the Society, from March 23rd to June 17th, was—from annual subscriptions and donations, including Local Societies, £178 19s. 6d.; from all sources, £281 15s. 6d. The expenditure during the same period was £513 0s. 10d. On June 18th the balance in the Bank was £519 15s. 7d.

Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
 2. Cases for Herr Schumacher's "Jaulân."
 3. Cases for the *Quarterly Statement*, in green or chocolate.
 4. Cases for "Abila," "Pella," and "'Ajlûn" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

While desiring to give every publicity to proposed identifications and other theories advanced by officers of the Fund and contributors to the pages of the *Quarterly Statement*, the Committee wish it to be distinctly understood that by publishing them in the *Quarterly Statement* they neither sanction nor adopt them.

Subscribers who do not receive the *Quarterly Statement* regularly are asked to send a note to the Secretary. Great care is taken to forward each number to all who are entitled to receive it, but changes of address and other causes give rise occasionally to omissions.

The only authorised lecturers for the Society are—

- (1) The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archaeology. Address: Rev. Thomas Harrison, Hillside, Benenden, Staplehurst, Kent. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

- (2) The Rev. Charles Chidlow, M.A., Caio Vicarage, Llandilo:—

Recent Discoveries in Bible Lands.

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

It has been asked why Mr. St. Clair's name has been omitted from the list of lecturers. The reason is that during the last season Mr. St. Clair has been lecturing on his own responsibility. His relations with the Committee are, and always have been, of a cordial character, and the Committee desire to express their sympathy with him in his efforts to awaken and sustain interest in "Eastern Exploration."

REPORTS FROM JERUSALEM.

LETTERS FROM HERR SCHICK.

JERUSALEM, February, 1891.

DISCOVERIES IN "SOLOMON'S STABLES."

SOME years ago the Moslems began to clear the earth from the so-called "Solomon's stables." Then the work rested for some time, and has recently been completed. After the removal of the earth some things of interest for the student came to light. First, that the north wall C, of the substructions consists of very large dressed stones. Second, that the west wall D, also consists of large stones, all, or at least the lower ones, *in situ*, and that there on the flooring the rock is visible. East of it, close to the wall E, are a few stone mangers. The wall E also has large stones; the wall F has stones of all sorts, and certainly of later period than the others mentioned. I think these walls were built up by Herod as a foundation for his grand hall or threefold cloister on the south side ("Antiq.," Joseph. xv, 11, 5) reaching to "the west and east valley," and just here (as the section will show) the slope of the valley begins. Under this part a *passage* was recently found by the Rev. J. E. Hanauer, and according to his description and measurements, I have laid it down on the accompanying drawing.

For what purpose this passage was made is not easy to say. One thinks first of water (aqueduct), but certainly this passage has never been made as such; and as there are under the Triple Gate similar passages which were found long ago, and are shown in all the plans published by the Exploration Fund, I have thought it well to make a copy of this part of the Ordnance Survey Plan, scale $\frac{1}{5000}$, of the Haram at Jerusalem, in order to show upon it the exact site of the new-found one, and also the others.

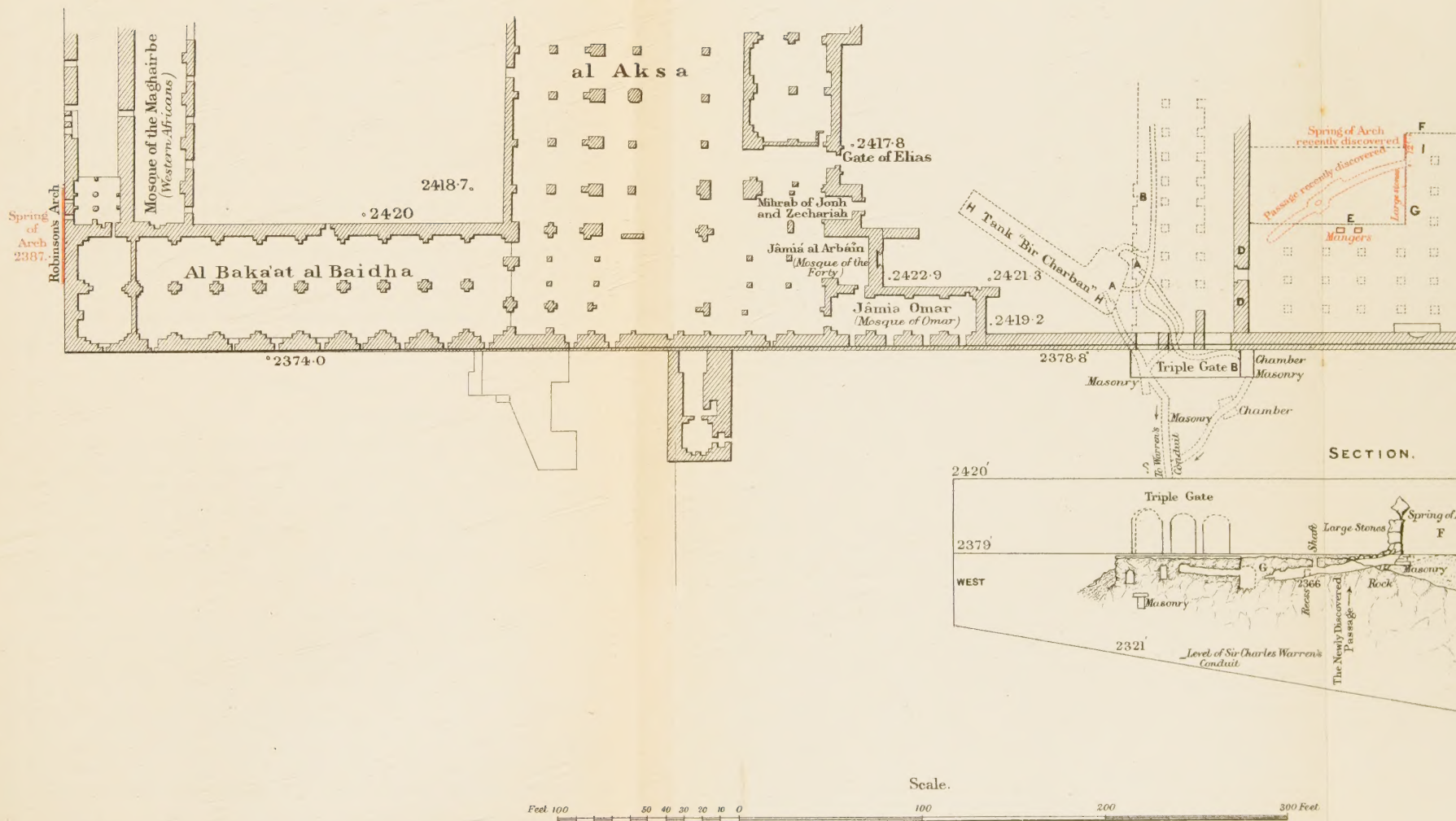
Both branches of one marked A A under the Triple Gate end in the north abruptly, and one wing has a crevice at the end.

It is tunnel-like, hewn in the rock, descends towards the south, and where its two branches are connected, comes out from the rock scarp, and further on is made of rough masonry. The rocky part was never for water, but it may be that in later time, especially at the time of the Crusaders¹, its walled prolongation was used as a sewer. Not so the other marked B, which was certainly intended for water—first to bring surface water to the cistern H by the upper branch, and when the cistern became full, to carry off the superfluous water by the lower

¹ According to Arabic writers the Crusaders had here the common water closets, which the Muhamedans, when again in possession of the Haram, removed.

SOUTHERN PART OF THE HARAM ESH SHERIF, JERUSALEM

Traced from Ordnance Plan to shew the position of the newly discovered Passage and Spring of Arch, by Barauth C. Schick, February 1891.





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branch into the same aqueduct B, which crosses the first channel marked A, being cut at a higher level, and taking an easterly direction, comes out from the rock on its eastern scarp, where there was once a kind of arched room, perhaps formerly a cistern. It then goes further (all masonry) to a point where it might meet the other, but the junction has not been ascertained. South of this suggested meeting point, about 65 feet distant, and in the same line, the Ordnance Survey plan, and others, show a conduit discovered by Sir Charles Warren when he found the underground rock-hewn stables. In front of the Triple Gate there was a *podium* formed of rock, scarped down on three sides and covered with very large, flat, and finely-chiselled flagging stones, as shown in the drawings. These channels or passages come out through this podium.

SPRING OF AN ANCIENT ARCH.

When the heap of earth in one of the corners at Solomon's Stables (marked I) was removed, there were seen, on the western wall of this corner three layers of large stones, and over them a fourth, put a little backward, which formed the spring of a former arch, in some degree similar to "Robinson's Arch." The height of this spring is about 4 feet, and its length visible for 11 feet 6 inches, but it is, very likely, still longer, going behind the block of masonry, which is apparently of a later date than the arch. The spring of the arch is about 14 feet from the ground or the present floor of the substruction. I hear that Mr. Lees has photographed the whole and sent a copy to the Exploration Fund, which certainly will afford a complete explanation.

VARIOUS NOTES.

JERUSALEM, *March 16th*, 1891.

I am sorry to say the history of the Siloam inscription has already, as I feared, produced evil consequences. I last week resumed the work of clearing the second Siloam aqueduct, but after a few days someone gave notice to the local authorities, and immediately the workpeople were arrested and put in prison. On my explaining the matter they were set at liberty, for "my sake," as they said, but going on with the work cannot be allowed, and I was directed to apply for a paper permitting such work.

Monsieur P. M. J. Lagrange, Principal of the Dominicans' place, near Jeremiah's Grotto, made a journey beyond the Jordan. A description of it in French, by Delhomme and Briguel, Paris, was printed under the title, "*Au delà du Jourdain.*" In it mention is made of inscriptions which were recently found, one being Nabatean, from Medeba, and another, a text of Scripture in Samaritan, from Amwas.¹

The winter rains have been very heavy, and severe storms occurred. A large steamer was stranded at Jaffa, and the bridge over the Jordan was destroyed and washed down to the Dead Sea, so that for a long time

¹ Photographs of these inscriptions are in the offices of the Fund.

the river could not be crossed except by the old bridge below the Galilean Sea. Bîr Eyûb here was flowing for several weeks.

A few months ago, I heard that in the village Shâfât an ancient church was found. As at the time I was not well, and there was nearly continually rain, I could not go there till *now*, but found no church, simply an old Crusading building with two preserved windows. The walls are about 6 feet thick, against which the fellabeen houses are built and so not easy to recognise. It was a kind of khan built in the usual Crusading way, with a vault a little higher in middle than semi-circular.

The Latins having got possession of a house in the Via Dolorosa or Tarik Es Sarai, on Sir C. Wilson's plan called "Veronica's house," have pulled down parts of it and intend to rebuild the whole, preserving some old parts. I examined the place but found nothing of interest, but will watch, and go there from time to time.

Inside the city, close to the town wall, at the corner between the newly-opened gate and the school of the brethren (the ancient Kûlât al Jalûd), the ground has been cleared away to the rock, as a new building will be erected there. Nothing of interest was found except large hewn stones and heavy rough boulders, a small cistern, some unimportant walls and *dêbris*. The rock is about 11 feet under the present surface of the ground.

Pool of Bethesda.—In consequence of the heavy rains some of the arches over this pool gave way, and so some vaultings and the part of the neighbouring houses fell and filled the pool.

The new buildings on the northern part of Mount Olivet for Mr. Gray Hill are advancing, and give to the scenery round Jerusalem a new feature. It will certainly be more agreeable and interesting when on the hill-tops round Jerusalem there will be buildings instead of bare hills.

THE NEWLY DISCOVERED ARCH IN "SOLOMON'S STABLES."

April, 1891.

I have been at the "Haram Es Sherif," and inspected what has been done there by the Moslems during the last three or four months. All the earth heaps, which were in those places where there is an opening in the roofing of the substructions, commonly called "Solomon's Stables," have been removed, and the floor of the substructions levelled. The eastern part is now not so high as before, the bottom having been brought up to a higher level, so that the holes on the corners of the piers once used to fasten animals and the mangers between the piers have disappeared, *i.e.*, are buried in the ground; so these substructions look now more clean and regular, but much less interesting. Some windows have been made in the south wall, and there is now full light even in the "triple passage." One of the three passages is walled up, and its northern part no more visible, and the middle one is opened at its northern end, so that people may go in and out there. Besides the arch and underground passage, for the greater part hewn in the rock, discovered by Mr. Lees and Mr. Hanauer, nothing else of interest has been found.

The visible portion of the arch extends about 12 feet north and south,

but the arch was once much broader, as I could easily observe. According to my measure, it was 38 feet from its southern commencement (G) to the northern corner, and very likely also goes some feet behind the corner, as the masonry there is more modern. The southern edge of this arch will have been 80 feet from the outer surface of the south wall of the Haram, and its north end about 120 to 125 feet from the same point. Robinson's arch is, from the south-west corner of the Haram wall 39 feet, and being 50 feet wide, ends at 89 feet. The spring of the arch in the eastern wall is 79 feet from the southern corner, and being 23 feet wide ends at 102 feet from the corner.

Mr. Lees measured the curve of the remains of the arch, and found in a 4-feet segment a curve of $3\frac{1}{2}$ inches, which would give for the arch a span of about 13 feet.

I am sorry to say that the opening to the newly-discovered rock-cut passage I found walled up, so that I could not take the bearings. Nothing else can now be done in the stables.

EXCAVATIONS AT THE GOLDEN GATE.

The building of this gate stands now on three sides quite free, as the earth round it has been removed to a depth of about 30 feet, and for about 20 feet wide. Against the earth beyond a wall will now be built to keep it up. This wall will be about 16 feet distant from the building, so that one may walk round the three sides. In the portion of earth removed *a great many graves* were found, in a level a few feet above the flooring of the gate. All these graves are in a direction from west to east; all are lined with stones round about, and covered with stone slabs. All of them had still bones and mould, and seem to have been made in time of peace—not in haste or a time of tumult. So I am inclined to think they are very likely Christian, and from the time of the Crusaders. The workpeople told me that nothing else than bones were found in them; no crosses or any such things.

TOMBS AND OSSUARIES AT RUJM EL KAHAKIR.

In the Jerusalem volume, Part ii, pages 342 and 343, under the number 29,¹ this heap of stones is mentioned without further notice. Recently the proprietor of the ground, a Muhammedan of the city, being about to enclose his property with a dry wall, opened the 'Rujm,' or stone heap, and made a deep trench in it, in order to get stones for the wall, but found nothing but rather small stones, the largest such as a man may carry. It is now clear that there are no "ruins" under it, but rock-cut tombs, and that others are also in the immediate neighbourhood, of which I will now report.

No. 1 is a rock-cut tomb, of which I send plan and section.² There is a way 7 feet 6 inches wide and about 15 feet long, cut horizontally into

¹ See also Jerusalem sheet of the large map.

² The map, plans, and sections which accompanied this report are in the office of the Fund.

the rock. This leads to a usual door a couple of feet high and wide, in a rock wall only 15 inches thick. I found it locked with a new iron door, but the proprietor opened it for me. It was full of those little stone cases with human bones and mould. The room is 11 feet long and 8 feet wide and about (on an average) $5\frac{3}{4}$ feet high. It has on its west side one *loculus* 7 feet 6 inches deep, and on its north side two 7 feet deep; the one in the north-western corner is a little declining. The cases were not all found here, but several in other places, and now simply stored here. They are of the usual form, and with the already well-known ornaments on the front, some of the lids are flat, others domed or pyramidal. I found no inscriptions on them. The largest is 2 feet 8 inches long, $11\frac{1}{2}$ inches broad, and 1 foot $2\frac{1}{2}$ inches high; the smallest 1 foot 2 inches long, 8 inches broad, and 9 inches high.

Thirty-nine feet north is another group of tombs. The first room is 9 feet each way sunk into the rock, and once arched or vaulted, but now broken down. It has at the south-western corner two ordinary *loculi* 6 feet 6 inches deep, one on each side, and on the eastern side also two of the same kind. Towards the north is a door leading downwards into another chamber of the same size, but with benches on three sides, 2 feet 3 inches high, and 2 feet 6 inches and 3 feet 6 inches broad. Towards the east are two *loculi* and one opposite in the west; also one in north wall, but only 4 feet 6 inches deep. The roof is rock. This room had been plastered inside with lime and chippings of Kakooli stone, which gives a curious appearance. As the rock is soft and brittle, it seems the plastering was made to protect it. On the field round about these tombs I saw many pieces of broken "stone cases," such as described above; also several of the closing stones of the *loculi*; they are heavy blocks, pinned on one side, so as just to fit the opening of the *loculi*, and some had been used for doors.

At No. 3 on the map, just under the large "Rujm," are very old rock-cut tombs, of which Sheet iv gives a section and plan. The entrance is from south, going northwards, and a few steps down into an open court 30 feet long; its breadth I cannot tell, as there is a large heap of stones in it, but I estimate it at 20 feet. In its middle, towards the north-west wall, is a square opening leading into a rock-hewn chamber 8 feet wide, 16 feet long, and 8 feet high, without any *loculus*. Opposite the door is (close to the following) another door leading to a second room, which is 14 feet long, $12\frac{1}{2}$ feet wide, and 7 feet 6 inches high. Its flooring is 4 feet 2 inches lower than the first. On each of three of its sides are two *loculi*, which are rather unusually deep, from 8 to 10 feet (the deepest or longest which I have ever seen), and on the fourth side again a similar door leading into a further chamber, the third, 11 feet 3 inches by 12 feet 6 inches wide and 6 feet 6 inches high, its flooring 2 feet lower than the former. It has one *loculus* on the left wall, and two in the right; one is in a slightly slanting direction, the other is rather short (6 feet) and very wide (5 feet) and high (3 feet 9 inches). On the inner wall, also close to the following, a similar, but narrower door, leads into the fourth chamber,

which measures 8 feet in each direction, and is 6 feet high, and looks somewhat rough, as if not quite finished. Its flooring is also 2 feet deeper than the former, so the sun rays may at a certain time of the day fall even into the innermost. I could not find or see any bones, so this tomb must have been rifled long ago. Shepherds keep their flocks during stormy nights in it. In some places the rock is damaged.

About 200 feet south of this (marked No. 4 on map) is another site of tombs, shown on Sheet v in section and plan. A flight of rock-cut steps leads northwards down into an open court, 10 feet wide each way, and with rock walls round 7 feet high. Close to the western wall, on the lowest step, which is broad and high, is a small rock-cut pool, 2 feet 7 inches wide each way and the same deep. In the flooring is on, and partly under, the eastern wall of the court, an oval-shaped cistern 6 feet deep, in diameter 6 feet, and 3 feet 6 inches at the middle of its height, where it narrows upwards.

From the court in the north wall, and close to the flooring, an ordinary tomb door leads 2 feet 6 inches by three steps down into a chamber, 10 feet 3 inches wide each way, and 6 feet 6 inches high, all cut in rock. It has in the west wall one common loculus, and three in the north and three in the east wall, in which were found several of the well-known stone cases (*ossuaries*), and some broken slabs with inscriptions. The proprietor of the ground took me to his house, marked *d* on the map, the first of the new houses, and there showed me these things, also some pottery, small jars, &c. A piece of a slab or flat stone 1½ inch thick, 9½ inches broad, which apparently was originally 12 inches broad, and at least 1 foot long, bears engraved letters in two lines, as the copy will show.¹ As I had no paper with me for making a proper squeeze, and heard that Mr. R. Lees had already made such, and sent it to the Palestine Exploration Fund, I thought it not necessary to do more than simply to report on it.

Another is a hard reddish-looking and somewhat thicker piece of a flagstone, with a very incomplete inscription in Greek letters. It measures 7 inches long by 6 inches broad. The letters are large and deeply engraved.



INSCRIBED SLAB FROM RUJM KAHAKIR.

No. 3 is a soft stone slab, having apparently once formed the side of one of those repeatedly mentioned stone cases.

¹ See Professor Clermont-Ganneau's paper, page 240.

As shown on the Ordnance Survey Plan 10000, there is a kind of plateau, or a high level ground, enclosed within a series of stone heaps made of small stones, which appear to have been gathered from the surrounding ground, and arranged in regular lines on the declivity of the plateau. Of which heaps the "Rujm Kahakir" is the largest and highest (*i.e.*, most prominent) and the most southerly; from its top the land is level northwards, and also north-eastwards on the top of the stone heaps, and the whole is artificial, I cannot help thinking *that this is the Roman camping ground of Titus!* According to Josephus' description (Bell. Jud. 5, 2, 3) it was a "plain," not the top of a hill or ridge; the temple to be seen there, and 7 furlongs from the city. The "Rujm Kahakir" is (according to the Ordnance Survey map) 5,200 feet distant from Damascus Gate. If we take for the outer works of the city, as ditch, &c., 200 feet, there remains 5,000. And as a furlong, according to Smith's Bible Dictionary, was 607 feet, it makes about $8\frac{1}{2}$ furlongs. The top of the ridge at the Nâblus road is 1,500 feet farther distant. It has also to be noted that the southern row of the said stone heaps extends exactly eastwards to the Nâblus road, and that there seems east of this road a similar place, as if the camp had been divided into two parts.

LETTERS FROM THE REV. J. E. HANAUER.

A SUBTERRANEAN PASSAGE IN SOLOMON'S STABLES.¹

The earth that had accumulated during centuries in the vaults at the south-east angle of the Haram area has been removed, and a portion of a massive wall, built of stones like those underneath the "Cradle of Jesus," was observed by Mr. Lees to have been uncovered. It is of four courses, each about 4 feet high, the upper course forming the spring of an arch. It runs northwards parallel to, but about 86 feet to the east of, the arched passages running northward from the Triple Gate. I think that this discovery is important, and will have a bearing on the arguments concerning the real site of the Temple. At Mr. Lees' invitation I accompanied him to the spot, and was so fortunate as to make a discovery, which I will endeavour briefly to describe.

Whilst examining the large stone, I noticed at the foot of the wall, and at a point 18 feet from its northern end, a hole about 15 inches long and 10 inches high, and looking as if a small dog or jackal had been burrowing there. It seemed to be of some depth. Having succeeded in obtaining a small candle-end, I lay down on my face, and, on looking in, found that I was peering into a passage below me, running with a slight downward slope towards the south-west. The passage was about 8 feet high, and wide enough to allow a person to walk along it with ease. I threw off my coat, and, after considerable difficulty, succeeded in squeezing myself, feet foremost, through the hole, and then climbed down into the passage. The side walls were formed of rough rubble, uncoated

¹ See Plan, page 198.

with cement, the roof of flat stones, "sawakeef," laid across. Following it for 13 paces (say about 39 feet), it suddenly widened, and I found myself inside a long artificial cave gallery, or tunnel, roughly hewn in the rock, and turning slightly more to the left—that is, southwards. Stalactites were hanging from the roof, and the floor was covered with a snow-white calcareous deposit. Pick-marks were plainly visible on the walls, and from their curve downwards, it was clear that the miners had tunnelled in the direction of the passages under the Triple Gate. The place was certainly not part of an underground quarry, for, though I looked, I nowhere found traces of beds from which blocks had been removed. Such beds are common in ancient quarries throughout the country. Seven paces (21 feet) further I found a large recess on the left. It may have been the entrance to a side gallery, which had been blocked up.¹ Twelve paces further (36 feet) brought me to the end of the tunnel. It was an unfinished work, very roughly hewn, as if made in great haste. At this spot it was 8 feet 8 inches in width; at the farthest end a long, low horizontal crevice, probably made with crowbars, tapered away into the rock wall. I cannot help thinking that what I found may be a trace of the unsuccessful tunnelling operations of the stone-cutters of Simon the Tyrant, the son of Gioras (Jos., "Wars of the Jews," vii, 2). The masonry tunnel, now blocked up at its eastern end (under the hole I entered by) by a rough wall built across, would strikingly answer to the description: "Now, as far as had been digged of old, they went onward along it without disturbance," whilst the unfinished rock-cut gallery, with its steady downward slope, was undoubtedly like the place where "they dug a mine underground, and this in hopes that they should be able to proceed so far as to rise from underground, in a safe place, and by that means escape; but when they came to make the experiment, they were disappointed of their hope, for the miners could make but small progress, insomuch that their provisions, though they distributed them by measure, began to fail them."

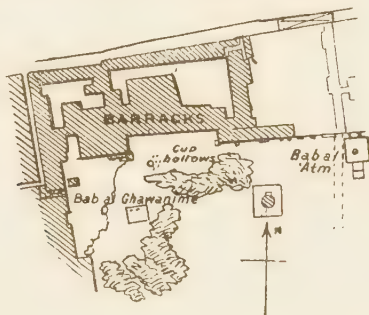
Retracing my steps, I called to my companions (Mr. Lees and Mr. C. Hornstein), and advised them to come down. They did so, and after examining the place and taking the measurements, we found it necessary to retire, as our candle-end was nearly used up. If it was rather difficult to get in, it was much more so to get out. I was the stoutest of the party, and after climbing up to the entrance hole and putting my head and one arm through, I was caught like a snake in a noose. I could neither get backwards nor forwards, and though several days have elapsed since then, my ribs, elbows, and knees still ache in consequence of that fearful final wriggle to get out. In fact, I might be wriggling still had not the sheikhs of the Haram caught hold of me by the head and shoulders and pulled me through. The sheikh of the mosque told me he was going to close the hole up next day, and asked me to tell Mr. Schick about it.

¹ Just here a hole in the rock roof, as if of a narrow shaft leading upwards was noticed. It was blocked with a stone.

CUTTINGS IN THE ROCK IN THE HARAM-AREA.

When Dr. Lansdell, of Siberian and Central Asian fame, was here a few weeks ago, I had the pleasure of accompanying him to the Haram-Area.

Whilst we were looking at the rock-scarp on which the present Turkish barracks stand, I noticed that the earth lying on a part of the rock levellings (about twenty-five paces to the south of the spot where it appears that the entrance to a rock-tunnel in the scarp has been blocked up with masonry), had, as it seemed, quite recently been cleared away, revealing a circular rock-cut hollow or basin, about five feet in diameter,



PLAN OF NORTH-WESTERN CORNER OF HARAM.

(Showing Position of Cup Hollows.)

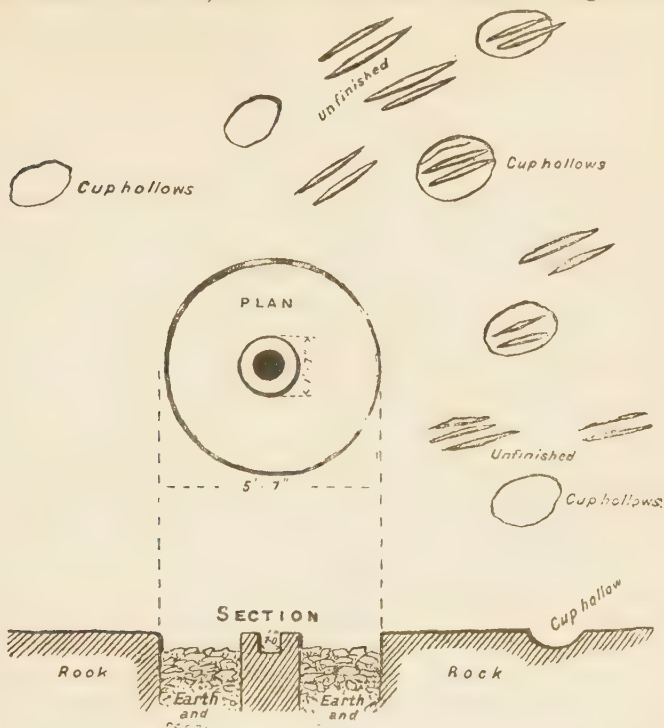
and surrounded by a large number of cup-shaped hollows, excavated in the rock.

Some of these had only just been commenced, and others were in a more or less advanced stage of completion, when the work of making them was relinquished perhaps centuries ago, so that it was possible to see how they had been scooped out. The method adopted was to cut two or three parallel gashes, about seven or eight inches long and about two inches apart, in the hard rock surface, then to remove the stone between these, and gradually to enlarge the hollow thus made.

In some of these hollows you can still see the bottoms of the gashes. In other spots the gashes alone scar the face of the rock. The rough sketch will give an idea of what I mean. As I had never noticed these curious cuttings before, and did not know whether anyone else had, it struck me that perhaps it would be as well to mention them, though, of course, in a place like the Haram, where at every step you notice something interesting, it seems absurd to call attention to such insignificant details. The enclosed rough tracing of the north-west corner of Haram shows approximately the position of these cuttings.

It seems to me that these hollows cut in the rock were made (as Mr. Schick told me I would find) by abrasion. I could not detect any

sign of chisel or iron tool, and the insides and bottoms of the gashes and



PLAN AND SECTION OF CUTTINGS IN THE ROCK IN HARAM AREA.

hollows are perfectly smooth and rounded, almost polished. I got measurements of the fountain-like cutting, and I enclose a sketch of it.

REPORTS FROM MR. F. J. BLISS.

TELL EL HESY, April 6th, 1891.

You will see by the account that I have had to buy out a lot of crops, and got them for the price paid only after a tremendous amount of talk and bother. The beans we got cheap, but the barley was dear. You see the crops are rich this year, and the owners justly wish to be recompensed for the damage done to the adjacent crops not bought by us, and yet more or less encroached upon by our workpeople, who number about 100 at times.

The work has now gone on for three weeks. The first eight days I worked over the north section of the west town. I turned up all the

varieties of Amorite pottery; found burials of Phœnician jars similar to those found in Petrie's "cemetery," only very much deeper—quite 6 feet—found painted Phœnician pottery at all levels, except the lowest, with Archaic Amorite above it in some cases; thought I was finding walls over and over again, but a careful investigation always failed to prove face and direction in the consolidated and ruined mass of brick; uncovered a concrete wine press two or three feet deep, and found one house at the same level.

The consolidated state of this place, together with the failure to find small objects, decided me to leave it and attack the Tell. I had made the general investigations of the west town thoroughly, and to turn over the whole mass, *i.e.*, to investigate it particularly, would have taken all my time and money for this season. Starting at the *Well* on the Tell, I ran a line 60 feet to the west, and from thence a line 110 feet to the north, *i.e.*, above Manasseh's wall, and in the rectangle, bounded by the two lines, the wall, and the Tell east edge.

I placed my men in squares of 10 feet with orders to go down—the earth being taken to the edge by girls and women who throw it 100 feet and more into the river bed. First we uncovered a cemetery, apparently Arab from the bracelets, glass, &c. The cemetery being on top is, of course, later than any dwellings, and was probably used by the Bedawîn. At a depth of 4–6 feet we came on traces of a town very much ruined, but with a few frail walls which I have planned. The town contained a lot of deep circular ovens such as are now used. The pottery continued Greek and Phœnician. We are now uncovering a second town, part of it was burned by a fierce fire, but at the north end we have found walls in a capital condition, with a smooth brick face. In one room were several bushels of burned barley. In another place we find burned wheat. The pottery does not change much, and the red and black Greek pottery still turns up. There seems to be much more of it than Petrie supposed. The workmen are doing splendidly; I have seen Petrie's Egyptians at work, and I can still praise ours.

My father was astonished at the amount of work they do. I have the advantage of Petrie's picked workmen, and of a capital foreman who is most clever in tracing walls. Then they all work together and are not scattered about, as they were last year to be visited only once or twice a day. In ten days we have got to a depth in some places of over 10 feet, having worked 60 squares with rather less than 30 men. Each man has two girls to carry off the earth. When the tram comes we shall move west, and go down to the same level, thus uncovering the northern half of the Tell, as far down as we can.

The Effendi is very nice and friendly, and we get on very well. The Arabs are quiet, and we have almost no small worries. I have not been four miles from the tent since I arrived. Of course I shall visit Tell es Sâfi. To-day the weather is clearing, but we have had a horrible sirocco. I should mention that the item for wages includes a few shillings for backsheesh for small finds of pottery.

TELL EL HESY, *April 21st, 1891.*

I keep very busy. The tram has been set up and is a help, although, owing to the contracted condition of the hill, and the single track, it does not carry earth as fast as we can dig it up.

Nothing new since I last wrote, only more of the same thing—unearthing interesting rooms, with pottery, seeds, &c., &c., which of course I am planning. So many granaries and weavers places this old town must have had. One rude Greek inscription—a few letters; Greek pottery abundant. The harvest this year is early and rich—last year it was late and poor, owing to Arab wars. I fear we will have hard work to keep men, who are already deserting. We shall get men from the other villages, and may have to raise the wages a trifle.

If the Committee desire to make an autumn season here, it will hardly be safe before October (so Dr. Elliott thinks), but then work might go on if the rains were slight until near to Christmas. It is important for me to know before I leave, for the tram and tents, &c., should be stored at Gaza with the good Doctor if the work is to go on in October, so as to avoid the expense of carrying them up to Jerusalem and bringing them down again.

Of course I hope to stay on till the 1st of June, but the heat and the lack of workpeople may stop the work before.

I have decided not to uncover the whole of the north half of the hill, but the north-east quarter of it, as it is very difficult to get rid of the earth. So in a day or two we will be *going down* again, and I hope my next letter may report something interesting.

TELL EL HESY, *April 24th, 1891.*

We are pushing the work hard this week before the harvest sets in; have to-day 39 men at work, each with two girls to throw away the earth, for now the earth carrying is the great problem. For Ramadan they are working splendidly. By to-morrow or Monday we shall begin to go down into the fifth period, as I distinguish now—

- (1) The Arab graveyard at the surface.
- (2) Rough stone dwellings, all fallen, with rough pottery.
- (3) The town of the ovens.
- (4) A lower town, full of granaries.

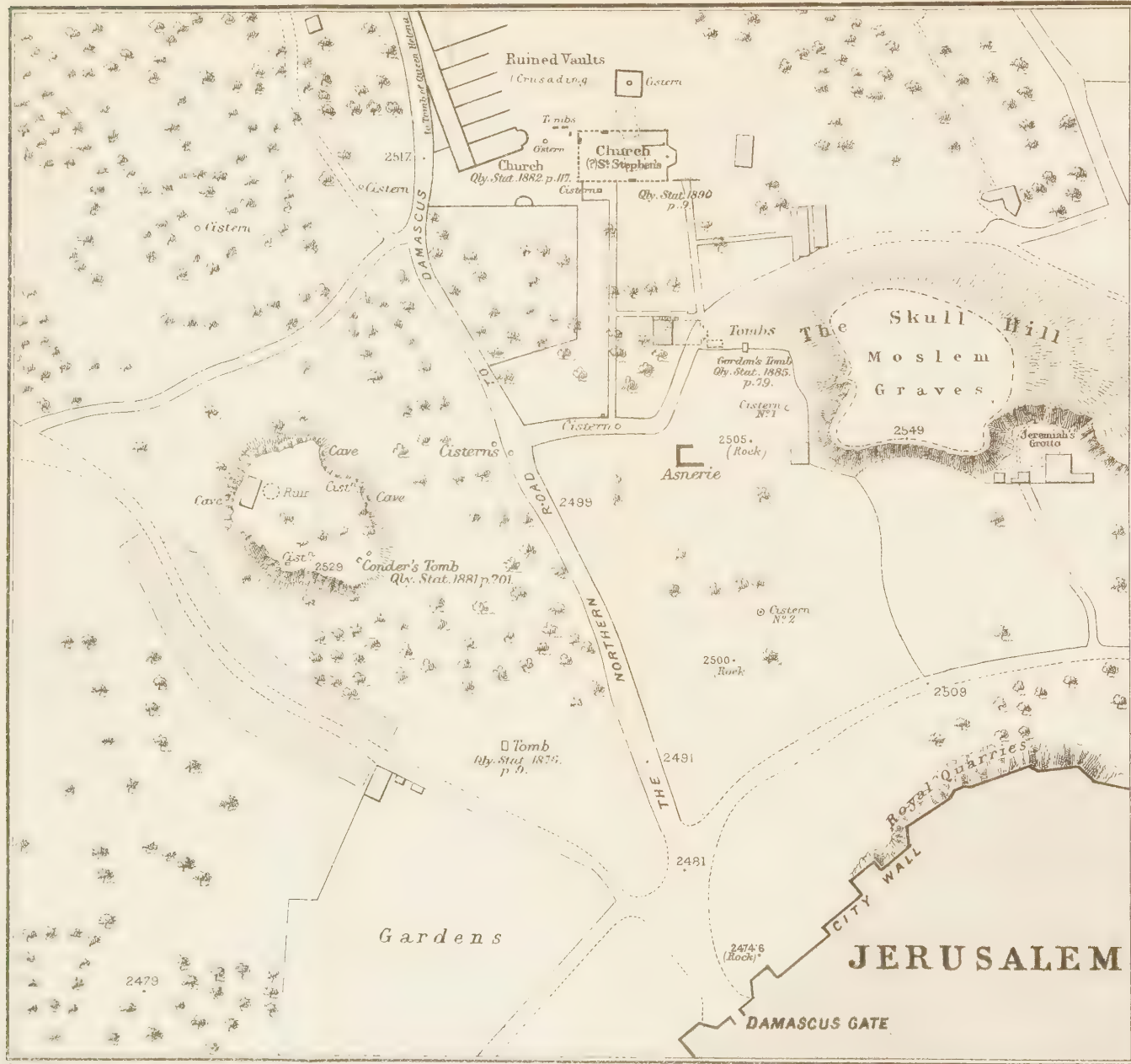
Number 4 had still some very good walls, all of which are planned. I think we have destroyed no wall unwittingly, as the men always cry "wolf" if the ground gets hard, and my man Yusif (who is a perfect treasure—intelligent, keen, honest, politic and enthusiastic), is very clever at detecting brick *in situ*, fallen brick and brick decay. The weather for the past ten days has been delicious.

GAZA, *May 23rd*, 1891.

I am very sorry to report that I have been reluctantly obliged to close the work for the season. The harvest has proved a fatal rival to the work. As early as April 22nd we were obliged to fill our broken ranks of trained workmen with raw material from another village, and on April 25th (a Saturday) I announced that I would raise the wages from 9 Gaza piastres per day for a man to 11½ piastres—over 30 per cent.—with a corresponding rise in the girls' wages. Well, even this increase failed to keep my trained workmen, of whom only seven came back on Monday, April 27th, and in their place we were obliged to put a lot of new raw workmen; a most unsatisfactory state of things it was, this seeing inferior labourers profiting by the rise in the wages, but I believe that it would have been hard to have secured a sufficient number even of these at the old price. At any rate, on Monday, May 4th, their numbers were much depleted, many having gone off to the barley harvest. Monday, May 11th, only nine men came, with the girls to carry the earth, and the quality had fallen off quite as much as the quantity—old men and little girls, the maimed and the aged. The work got most unsatisfactory. We were digging in a section more than 100 feet square, which had to be lowered pretty evenly, and which, at any rate, had to be left even, for the sake of next year's crops. Of course the Fund expects to return in the autumn, but in the meantime the owners of the land have a right to demand that the place be kept in a state for ploughing—indeed, I would not have felt it right to leave it otherwise. This hampered the work at the end, for in our uncertainty from day to day as to how many men might come the day after, we hesitated to go deep in any one spot for fear we would be left with an irregular plot of land with no one to level it. With a number of trained workmen back again in the autumn, we will in a couple of days be able to do as much work as was done in the last week and a half—and, of course, at far less cost. Our inability to work as late as Mr. Petrie did is owing to the peace among the Arabs, which has enabled them to sow full crops, which their peasant partners reap. The harvest also is earlier. For weeks past we have seen processions of peasants from distant villages pass the Tell on their way to the Arab encampments. First came the lentil crop, then the barley, and now the wheat has begun. I paid off the men Friday, May 15th. The next day visited Tell es Sâfi. I should say that the place was in just about the same condition as when Mr. Petrie visited it. But more of this later. We began to send in the tram stuff Monday, and by Thursday everything was in store here. Dr. Elliott is most kind. As to work in the autumn, I have written Mr. Dickson at Jerusalem, asking him if he will kindly represent to the Governor the necessity which occasioned the temporary cessation of the work. The law on excavations says that the Firman is null if the work is stopped for two months, but the blanks for permission say that the Firman is null if the work is stopped for more

N^o 1.
PLAN SHEWING POSITION OF THE TWO CHURCHES N.OF DAMASCUS GATE.

PALESTINE EXPLORATION FUND.



Scale 100 0 100 200 300 400 500 600 700 800 feet

E. Weller, Lith

than two months *without reason*. The harvest, the heat of summer, and the malaria causing typhoid from which the Arabs flee, will be represented to be sufficient reasons for prolonging the vacation to late September. I hope very shortly after my arrival in Beirût, to send in my report for the season.

RUINS OF CHURCH ON THE SKULL HILL, JERUSALEM.

DURING the last few years building operations to a large extent have been carried on in the environs of Jerusalem, and several objects of interest discovered during the attendant excavations have been duly noted from time to time in our *Quarterly Statements*.

Amongst these discoveries was that of the small Crusaders' Church near the road, north of the Damascus Gate, a full description of which by Lieutenant Mantell, R.E., together with drawings of details of great interest, were given in the *Quarterly Statement* of January, 1882, p. 117. It is marked (CHURCH) in the annexed plan, No. 1.

The remains of the Crusaders' Church still exist as so described, but the stone on which were the very interesting paintings (representing our Lord and His Disciples) has been exposed to the air, and only faint traces of them can now be seen.

The land to the eastward of this Church was purchased some years since by the French Dominican Friars, whose excavations for the erection of their buildings soon exposed one of the most interesting series of tombs near the City.

They have been preserved by the Friars with great care and at considerable expense. Continuing their excavations westward, a trench 8 to 10 feet deep uncovered portions of a tessellated pavement in good condition, and composed entirely of different coloured marbles.

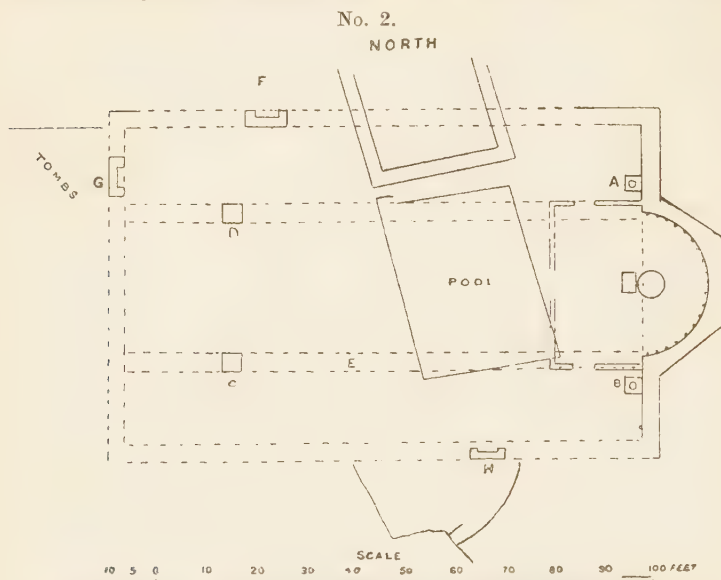
I was enabled to see this in 1886, owing to the kindness of Dr. Selah Merrill, the well-known author and American Consul at Jerusalem, who had specially noted it, and so much of it was then exposed as to show that it was the pavement of one long corridor, or other apartment, at least 50 feet long. But there was nothing in the design of the mosaic or any of its surroundings to disclose the nature of the building.

Since then, however, the excavations have so far proceeded as to uncover the greater portion of it, and when I saw it again last year it was clearly shown to be the remains of a Church, presenting several peculiarities of much interest.

It is on the well-known Skull Hill and north-west of Jeremiah's Grotto, and about north of the tomb suggested by General Gordon, as probably

that of our Lord, and so indicated in the sketch, &c., given in the *Quarterly Statement* of April, 1885.

The remains of the Church are shown to a larger scale on plan No. 2, which is from a careful drawing made by Mr. Schick, and from measurements taken by Mr. Petrie and myself.



It was evidently three-aisled, with an apsidal eastern end to the centre and square ends to the other aisles, the total length, exclusive of apse, being internally about 105 feet and the breadth 65 feet, being thus about the same width as St. James', Westminster, but 20 feet longer. The fine Church of St. Anne at Jerusalem is only 90 feet long.

It will be seen that the site of this edifice has been interfered with in a very singular way by two deep cuttings in the solid rock.

The southern one is cut perpendicularly down to a depth of 16 feet its shape being irregular, averaging about 36 feet by 27 feet. The northern one has only a trench dug round it, and Mr. Schick is no doubt correct in saying that these excavations were intended "to make a tank or pool, and to quarry stone for building at the same time."

It is tolerably certain, however, that the pool was never used as a tank, as a careful examination shows no trace of any cement lining.

It is unnecessary to enter further into the purpose or date of these rock-cut excavations, because they do not seem to affect in any way the description of the Church, except that they were supposed by the Friars to point out the site of St. Stephen's Tomb—but not the slightest trace of this has been found.

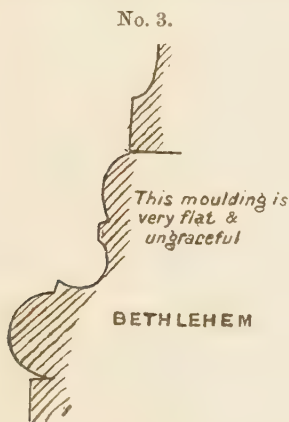
At the western end of the Church the wall has nearly disappeared,

but there are sufficient traces remaining to show its position, which seems to have been fixed by that of some ancient tombs shown near G on plan No. 2. One of them has been closed by a rolling stone.

The positions of the two aisle columns to the west are well marked (their foundations still remaining at c and d), and the Friars assured me that another one had been found at e, although again covered up. I could not, however, fix its *exact* position.

The sites of any other columns on the north side were still unexcavated when I last visited the place, and, of course, the pool (now entirely cleared out) has obliterated all traces of any work on its site.

Very fortunately one moulded base has been found, evidently belonging to the column mentioned below, its section being like those in the Basilica at Bethlehem (*vide* No. 3), the upper torus of which has a peculiar flat and ungraceful form.



A long length of one column has also been preserved; its diameter of 3 feet, supposing it to be Corinthian (as in all probability it was), would give a height, including base and capital, of about 30 feet.

The three door sills at F, G, and H, show the probable place of the old doorways.

But the most interesting part of the Church, and, fortunately, the best preserved, is the eastern.

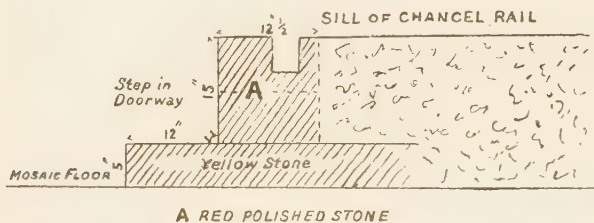
The stonework of its walls has been, indeed, to a large extent removed, but their external outline has been curiously preserved by a coating of plaster with which they were originally covered, and which now adheres tenaciously to the *debris* which lies against them, showing with complete distinctness the mark of every stone and joint.

I have not met with such another instance of this in any excavations, but Mr. Petrie tells me that he has found such an one in Egypt. There is not anything to indicate the precise form of the interior, but there can scarcely be a doubt that the centre was the usual circular apse.

At A is a square base of rough stone, but with a moulded marble casing fixed by bronze clips on one side, which still remains as I have drawn. When perfect it would have been 2·7 square.

A corresponding base, but stripped of its casing, is at B. A portion of a column of white marble, broken, but 6 feet long, was found near. But it is only 12 inches in diameter, and could not therefore have been one of the aisle columns. Still more interesting are the distinct remains of the chancel rails (V. No. 5), showing the outlines of the choir and the steps leading to it.

No. 5.

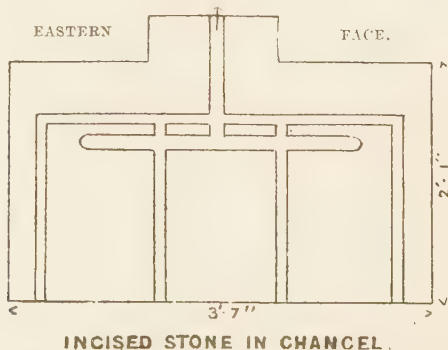


The north and south sides of these are evidently *in situ*, but the western end was formerly further to the west than at present, as is clearly shown by the marks on the sills at each side.

The steps from the general level of the mosaic to the chancel floor are *in situ*, and so is, to all appearance, the curious slab in the centre of the apse.

There are no other indications of the original floor of the chancel, but at the east of the slab was found a large stone, roughly cut to a circular form, 5·2 in diameter and 2·7 high. Both its upper and lower surfaces were quite flat and even.

No. 6.

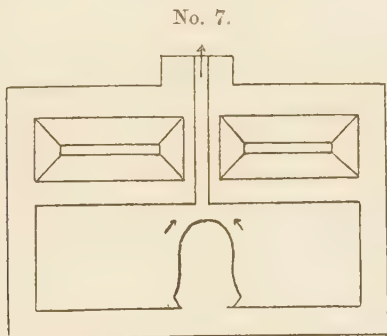


The slab is shown to a large scale in drawing No. 6, and it was found sunk to a somewhat lower level than that of the chancel floor.

The shape of the slab with its curious lip, and the channels made evidently for the purpose of receiving and pouring off liquids, will strike anyone conversant with Egyptian antiquities as having strong resemblance to the tables of offerings, numbers of which are in the Museum at Gizeh, and many also in the Museums of Turin and Paris.

In our own (British) Museum there are several such tables, many of which have a short leg at each angle. But this is not seen generally, and the slab at Jerusalem does not have it.

I append a sketch (No. 7) of one of these Egyptian tables (all of which were connected with Pagan worship), which I made at the Gizeh Museum at Cairo.



**EGYPTIAN TABLE OF OFFERINGS
FROM MUSEUM, GIZEH.**

It shows the peculiar lip which all these tables have, and also the channels for receiving and running off the liquids.

I know, personally, of no example of such a slab in a Christian Church, and I cannot learn from those of my friends who are best acquainted with Christian antiquities that such another is known in Europe.

Mr. Butler, in his well-known book on the Coptic Churches in Egypt, describes several altar slabs with channels for washing, and also particularly one at St. Pudentiana in Rome of the 4th century. And the "Encyclopédie Méthodique Antiquités, &c.," vol. i, p. 377, also notices that "Quelques autels antiques sont creusés en dessus et percés de côté pour recueillir et laisser écouler ensuite les libations."

But the peculiar lip is absent, and there are no crosses in the Jerusalem slab such as one would expect to find in an altar stone, in any but a Coptic Church.

But Mr. Butler also mentions that beneath the Greek altar there was always a place to carry off the rinsings from the priests' hands, and the water used for washing the sacred vessels, and in reference to this I find many notices in ecclesiastical writers, *e.g.* :—

In Durandus, lib. i, "De Altaris Consecratione"; "Ecclesia quoque iterim aspergitur et aquæ residuum ad basim altaris funditur."

Again, in "Martigny's Dictionary of Christian Antiquities," he describes under the head of Autel (page 60), "A la base de l'autel se trouvait une piscine où le prêtre se lavait les mains, &c., on y jettait aussi l'eau qui avait servi à laver les vases sacrés."

The absence of crosses appears to me to show that the slab was not an altar, but that it was used as our piscina, to receive the washings. But the lip is a form which, so far as I know, is unique in a Christian Church.

The circular stone is equally curious.

Bingham, in his "Antiquities" (vol. ii, section viii), speaking of the French Council in A.D. 509, notices that "whereas before that time (in France) they were in the form of tables, they now began to be erected more like altars, either upon a single foot or pillar in the midst, &c., or upon an edifice erected like a tomb."

Such a tomb-like edifice exists in the subterranean Church of St. John the Baptist at Jerusalem (v. "Notes to Ordnance Survey," p. 59), but I have no recollection of an altar stone "on a foot or pillar."

Professor Middleton, however, states that there is one so constructed at the very early Church of St. Angelo at Perugia.

This example (which has escaped my notice) may certainly be taken as a confirmation of Bingham's statement. Probably, therefore, the circular stone may be considered as used for a similar purpose.

Finally, we have to consider the tessellated mosaic which formed the pavement of the church.

This is made of different coloured marbles, viz., white, black, red, yellow, and blue, there being no terra cotta or stone used anywhere.

The tesserae are $\frac{1}{2}$ inch to $\frac{1}{4}$ inch square, according to their position. The border is one of the ordinary Roman patterns, and the rest of the work is only peculiar as being very plain in design for so costly a material, no figures or foliage being introduced. The workmanship throughout to the border is good, but the tesserae to the main portion are laid very irregularly.

It is everywhere, so far as I could see, fitted to the walls, and was, to all appearance, laid after they were built.

For some clue as to the date of the floor we may turn to another example in Jerusalem, viz., in the Church of St. Cross, which is said to have been built by Justinian, and only partly destroyed by Chosroës. I have not seen this pavement, and only know it from a description kindly given to me by Mrs. Finn, and from Pierotti's drawings; but if these be correct it is very debased work, and the design very poor.

Many other mosaics are now being uncovered in the vicinity of Jerusalem, more particularly near the present Zion Gate, and these are of good workmanship, but plain, and much like that at the church which I am describing.

If we turn to other parts of Palestine we shall find, perhaps the best

example in that given by E. Renan in his "*Mission de Phénicie*," of a Byzantine Church about 2 leagues from Tyre, and said to have been built in the 6th or 7th century ; and there is an inscription which distinctly assigns the mosaic to that date. But in a long and careful treatise on the subject given by Renan it is clearly shown that this inscription is an interpolation, the mosaic itself being of a much earlier date.

We have, then, the following facts, viz. :—

That the church of which we have the ruins on Skull Hill was very ancient, as is shown by its single apse.

That the octagonal form of this apse, externally, proves that it was designed under Byzantine influence before the distinctive features given to it in the plan of St. Sophia at Constantinople, and nearly all later Byzantine works.

That the church was arranged according to the Roman rite, and with very antique arrangements of altar, &c.

That the pavement was Roman, and laid down at a time at which great activity prevailed in ecclesiastical work at Jerusalem generally, as is shown by other large remains of similar mosaic pavements in other parts near the city.

That the marble linings still remaining to the north-eastern base, together with the costly mosaic floor, show that this church was one of great magnificence.

There is no mention of its erection in the account of Justinian's work given by Procopius.

It appears to me that its authorship is explained satisfactorily in the annexed note, given to me for other purposes by Sir C. W. Wilson :—

"I do not think that sufficient attention has been given to the great building period at Jerusalem when the Empress Eudocia was there. She built St. Stephen's Church, and it was, too, about this period, or a little later, that I attribute the many Churches including that, in probatica, the Siloam Church of Antoninus, &c." The history of the Empress is well known. She married the Emperor Theodosius II, in A.D. 421, made a pilgrimage to the Holy Land in 438, and a short time afterwards began the erection of St. Stephen's Church, in which she was buried ; her death taking place in 460.

It appears to me that the remains of this church fulfil the conditions which we might expect at such a time, when Roman work had been influenced by Byzantine.

The position of the Church appears to agree fully with the requirements of this opinion.

It is situate on the commanding hill which is well known as the Place of Stoning, close to the Gate (Damascus) which was formerly known as St. Stephen's, and answers to the description given by the Russian Abbot Daniel (1106–1167 A.D.), who appears to have entered by the Nablûs road : "To the left, near to the road, there is the Church of the first martyr, St. Stephen—it was at this place that he was stoned by the Jews."

There is, however, the fact to be ceded that the pilgrim Theodorich (c. 1172 A.D.) says, in describing his tour from west to east, outside the walls of Jerusalem,¹ "before you reach the Northern Gate you find, upon a hill, the Church of St. Stephen, the protomartyr," &c., &c.

The pilgrim Antoninus (c. 570 A.D.) makes a similar statement, so that we have his description of the site of the ancient church before the destruction of the churches by Chosroës, and Theodorich's description to the same effect after its rebuilding by the Crusaders.

These accounts would, apparently, place the church on the hill to the west of the Damascus road and away from the Skull Hill, the position being that suggested by Dr. Chaplin, in the *Quarterly Statement* for 1876, page 9, and very close to the Tomb which Major Conder has suggested as being very probably that of Our Lord.

Some of the other pilgrims appear to support this view, but others place the site of the stoning and of the church in entirely different positions from the above, and the various statements are otherwise singularly confused and at variance with each other.

They are given clearly, and collated, in the Appendix A. to the description by the Abbot Daniel [P. Pilgrims' Test. Soc.], and I will not attempt to reconcile them.

All that can, I think, be said at present is that we have no remains except those of the church which I have above described, which appear to fulfil the conditions of the Empress Eudocia's Church.

The sarcophagus which was found on the Western Hill (V. *Quarterly Statement*, 1876, page 9), though of great size, was, I believe, quite destitute of ornament, and not likely to be that of an Empress.

The position of her sarcophagus may possibly be indicated by the chamber to the south of the church entered from it by the door H.

T. HAYTER LEWIS.

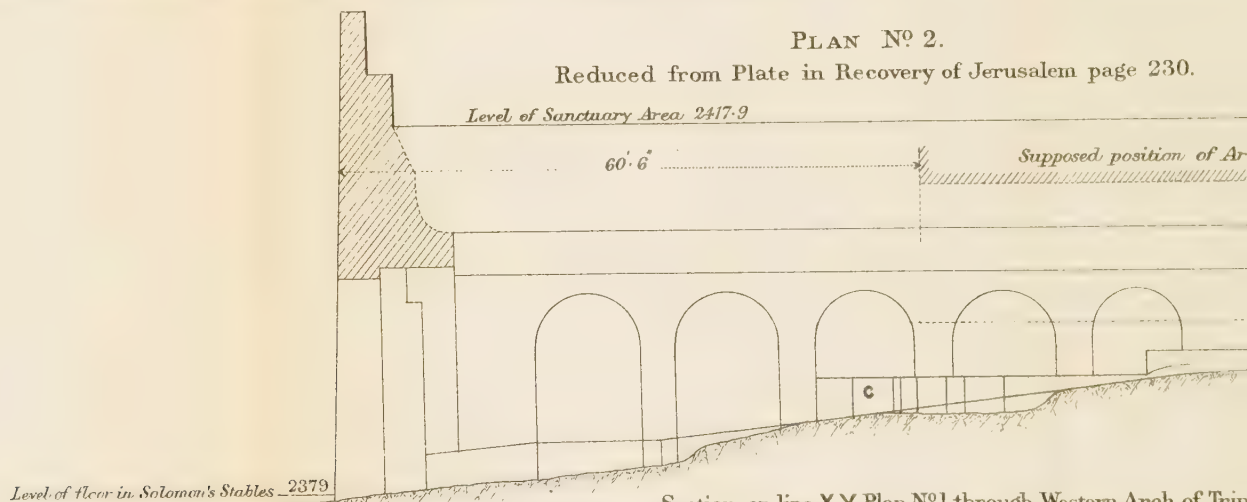
THE HOLY SEPULCHRE.

By MAJOR WATSON, R.E.

IN an interesting note by Mr. Simpson in the *Quarterly Statement* for April, he has alluded to the idea that part of the original rock can be seen in the entrance to the so-called Holy Sepulchre, and has pointed out that this appears to require authentication. Having heard a similar statement made on several occasions, I took the opportunity when recently in Jerusalem, to make a careful examination of the so-called tomb with a view to ascertaining whether any rock was visible or not. After doing so I was

¹ Palestine Pilgrim's Test. Soc., page 43.

Outline from Ordnance Survey.



60' 6" to outside of South Wall.

Enlarged Plan of Stones C apparently in Situ.

quite convinced that no rock could be seen at any part of the structure. At one point of the arch, above the entrance inside, there is some plaster or cement of a brown colour, which might possibly be mistaken for rock, and perhaps this gave rise to the idea. The attendants at the Sepulchre were positive that no rock was to be seen, and stated that they believed that the tomb was below, and completely concealed from view by the pavement and by the horizontal marble slab, which is well represented in Mr. Simpson's sketch. There is a crack or joint in the centre of the slab, also shown in the sketch, and it is said that the holy fire comes up through this crack from the tomb below. But of this there is no satisfactory evidence.

The true position of the actual rock cannot be ascertained without removing the slab, which of course would not be allowed until it needs repair. It is to be hoped that if it is ever taken up for this purpose, some intelligent resident in Jerusalem may have an opportunity of examining the substructure.

ON THE RELATION OF CERTAIN ARCH SPRINGINGS FOUND WITHIN THE AREA OF THE TEMPLE OF JERUSALEM.

By T. WRIGHTSON, Member Institute Civil Engineers.

ON the 26th February in this year I visited "Solomon's Stables," under the Temple area in Jerusalem, when my attention was drawn to an ancient arch springing, which occupied the position shown at A. B. on the accompanying plan, No. I (which is reduced from the Ordnance Survey.) I was informed by my dragoman that it had only been uncovered by the Turks within a few days, in moving the rubbish from the western to the eastern part of the stables.

The much more ancient appearance of the masonry as compared with the lighter and more recent arching forming the arcades of the stables which in this part rested upon the ancient springing, interested me, and hearing that only one or two Europeans had examined it before my visit, I was led to observe its peculiarities more than I should otherwise have done.

The arch sprang eastwards from a wall running north and south and forming one of the boundary lines of the somewhat irregular area of the "stables." The wall at this part forms a retreating recess 50 feet long, and is shown on the Ordnance plans made by Sir Charles Warren. Its face is parallel to, and 148 feet east of, the western wall of the passage leading north from the Triple Gate and about 187 feet west of the external face of the east wall of the Temple area.

The appearance of this venerable relic, as I understand, to be described and illustrated by Herr Schick in the *July Quarterly Statement* of the Palestine Exploration Committee, so that I need not do more than



[From a Photograph by G. R. Lees.]
 SPRING OF ARCH IN "SOLOMON'S STABLES," RECENTLY DISCOVERED.

state that the springing is supported by massive masonry which occupies the whole length of the 30 feet face. Many of the springing stones have been removed, but it is obvious from the character of the supporting

masonry that the south corner was originally the termination of the springing in that direction. At the north end a wall running east and west is built up to the face of the old masonry so that I could not be certain of this angle being the termination of the old arch northwards.

I had not at this time seen the springing at the south-west corner of the Temple area known as Robinson's arch, but when visiting this the following day I was greatly impressed by the similarity of the two springings, so much so that I could not divest my mind of the idea that they had originally formed springings of a continuous series of arches. What appeared to me to be against such a supposition was that the distance from the south end of Robinson's arch was only 39 feet from the outside of south wall at the south-west corner of the Temple boundary, whereas the distance of the south end of the newly discovered arch was 57 feet from the inside of the south wall, or 65 feet from the outside (allowing 8 feet thickness of wall as scaled from the Ordnance map of the Temple area, $\frac{1}{560}$ scale.)

It seemed difficult to account for such a considerable deviation from parallelism with the present south wall.

In thinking the matter over I came to the conclusion that as the last found springing was stretching forward in an eastward direction it was possible that on the east wall, which was only 187 feet from the springing, there might be some indication of the end of an arcade if such a continuous series had ever existed.

I had to leave this interesting speculation to go down to the valley of the Jordan and the Dead Sea, but in returning a few days afterwards over the Mount of Olives I thought I saw the object of my search in a sharp vertical line near the south-east corner of the Temple wall on its eastern face, a little to the right of what is known as Christ's Cradle.

The same afternoon I obtained a "permet" to again visit Solomon's Stables, and took more accurate dimensions of the position of the new arch. I then went round to the outside of the east wall, and measured the distance of the strong vertical mark (which I had seen from Olivet) from the south-east corner. This mark is formed by a retreating offset in the masonry, which has been thought by some to mark the limit of a supposed tower at the corner of the Temple, but which resembles a similar offset at the west wall which marks the limit of the southern end of Robinson's arch. On laying down upon the Ordnance Survey the three positions, viz., the southern end of Robinson's arch, the southern end of the lately discovered arch, and the offset in the east wall, I found that they were exactly in a straight line on the plan. On examining the stones to the north of this offset I was surprised to find another ancient arch springing,¹—two stones only remain, occupying 23 feet of length,

¹ See "Ordnance Survey of Jerusalem," Notes, page 25, and *Quarterly Statement*, 1880, pages 9-65.—[Ed.]

and coming within a few feet of the offset, and had apparently, at one time, extended to the offset. The springing was sailing out eastward, in the direction of the Mount of Olives. I afterwards found that this arch springing and the offset had been fully illustrated in the splendid set of drawings of the Temple wall by Sir Charles Warren. (Jerusalem volume of the "Memoirs.")

What I wish to draw attention to is the remarkable fact that the southern ends of these three springings are all in one line, and in a line quite out of parallel with the south wall, being 71·6 from the south wall at the eastern end, and only 39·3 from the south wall at its western end.

Another observation I have made appears to lend additional importance to this fact. Following my line westward it will be seen that it cuts the western side of the Triple Gate passage 60 feet 6 inches north of the exterior of the south wall. (See Plan I.) I have also marked the position on Plan No. II., which is a section of the Triple Gate, taken from "The Recovery of Jerusalem," page 230. It will be seen that the point of intersection comes immediately above a large stone, which is described as the foot of an engaged column, and considered to be *in situ* by Sir Charles Warren. It is illustrated in the same plate in detail.

This western wall of the Triple Gate passage is very ancient, and I think the explanation of this curious stone may be that one of the arches of the supposed series sprang from this wall eastwards, and formed an arched gateway into the Temple area, and that the peculiar shaped stone is the lowest and only left course of a pilaster or architrave designed to hide the more homely outline of the arch, and to give the entrance to the Temple a more noble and imposing appearance. We have therefore four interesting points, viz., the southern ends of the three arch springings described, and the curious stone in the Triple Gate entrance, all in an exactly straight line, about 922 feet long. We also have the fact that the breadth of Robinson's arch, 50 feet, corresponds with the depth of the recess from which the newly found arch springs.

These facts, coupled with the similarity in the appearance of Robinson's and the recently found arch springing, seem to favour the theory of a continuous series of arches having joined the eastern and western walls of the sanctuary at some early period.

If such a continuous arcade existed, whether this were a substructure or otherwise, it seems difficult to imagine that the builders could have erected so large a work without reference to the line of the sanctuary wall (an equally great work) lying only a few yards to the south, and if subsequent research proves the theory of the continuous arcade it will probably justify the view that the present southern wall was built at a later period and that it was an extension of the area of an older temple.

The level of Robinson's arch springing is 2387·5, that of the new arch springing taken by scale from Herr Schick's sketch 2397, or 18 feet above the level of floor of "Solomon's Stables."

The level of the springing from east wall ....	....	....	....	2372
„ floor of Solomon's Stables ....	....	....	....	2379
„ sanctuary area at this point ....	....	....	....	2418

With regard to the difference of level between the first two, viz., 9·5 feet. This is not at all incompatible with the floors which each arch supported being at the same level.

In crossing the deep Tyropean valley a longer span would be much more economical of material where the piers supporting the arches were so tall.

As the face of the rock rises, the piers supporting the arches would get shorter, and it would be much more economical under such circumstances to make the spans less; besides which shorter spans would be more convenient for supporting the weight of buildings above, which consideration would not apply to the valley arches. In making the spans less the springings would rise in level.

From Herr Schick's plan it appears there is a vertical distance of 21 feet from the level of the newly found springing to the level of the temple area.

If we assume semi-circular arches (as in the case of Robinson's and Wilson's, *see* plates on pp. 81 and 119 "Recovery of Jerusalem") this 21 feet would be made up of the thickness from crown of arch to level of Haram area, added to the radius of the arch span.

If we assume 10 feet of thickness we should want 11 feet of radius, or 22 feet span. If we assume a greater or less thickness, it reduces or increases the span accordingly. Thus, if we assume 12 feet thickness, we have 9 feet radius left, or an 18 feet span.

With regard to the springing from the eastern wall: Sir C. Warren explored the ground opposite up to 50 feet from the wall, in the hope of finding a pier as had been done in the case of Robinson's arch.

He says ("Recovery of Jerusalem," p. 151): "We were not far from the rock when searching for this pier, but not quite on it; it cannot, therefore, be said for certain that there was no pier for a bridge at this point, but the probabilities are against it." Colonel Wilson in his paper on the Masonry of the Haram Walls, Palestine Exploration, *Quarterly Statement*, January, 1880, says: "A few feet to the north of the offset there are two stones which form the springing of an arch and extend over a length of 18 feet. These stones do not appear to be *in situ*," and he dismisses the idea that they could have formed part of a bridge over the Kedron.

If a distinct relation of position is proved as between Robinson's arch and this eastern wall springing, it is a question whether Colonel Wilson's conclusion that the stones are not *in situ* can be maintained, and this taken in connection with Sir C. Warren's admission that he had not gone down to the rock, and could not say for certain that there was no pier, appears to rob the investigation of its conclusiveness.

I would only remark that if ever the question should be again

seriously investigated, the springing being 46 feet below the Haram area level would imply a longer span of arch than that of Robinson's, unless the roadway were at a lower level than the Haram area or the thickness over the crown of the arch much greater.

The chief observations in the above paper were communicated to the Palestine Exploration Secretary, also to Mr. Hanauer, in Jerusalem, in a letter dated March 6th.

Norton Hall,
Stockton-on-Tees,
May, 1891.

COMPARISON OF THE MONTHLY MEAN HIGHEST
AND MONTHLY MEAN LOWEST DAILY TEM-
PERATURES OF THE AIR, AND MONTHLY
MEAN DAILY RANGE OF TEMPERATURE IN
PALESTINE AND ENGLAND IN THE TEN
YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE following discussion of the temperature observations at Sarona and Blackheath is in continuation of those published in the *Quarterly Report* for April, 1891, pages 163—178.

TABLE VII.—Monthly Mean of the daily Maximum Temperature at *Sarona*.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
	°	°	°	°	°	°	°	°	°	°	°
January ..	58·5	71·0	61·1	64·4	60·2	62·3	64·7	63·4	61·7	64·2	63·2
February ..	65·5	64·8	55·7	62·8	60·3	65·3	67·0	64·3	66·1	67·2	63·9
March ..	66·4	68·4	68·3	70·5	66·5	70·1	67·7	67·9	77·5	73·8	69·8
April ..	75·2	77·6	72·3	72·8	77·8	73·2	73·0	78·0	74·7	74·1	74·9
May ..	80·9	80·1	75·3	76·7	77·2	83·4	76·5	80·2	78·2	82·2	79·1
June ..	83·8	83·2	79·6	83·1	84·4	82·8	86·0	83·9	82·4	84·4	83·3
July ..	87·3	86·2	84·4	84·4	85·0	85·7	86·0	85·9	88·5	88·4	86·1
August ..	89·0	89·9	86·6	88·2	86·0	87·1	87·9	88·5	88·4	88·3	88·0
September	88·3	88·1	87·2	87·7	83·7	87·1	87·2	86·0	87·1	86·8	87·1
October ..	84·7	83·3	83·3	84·1	81·8	85·6	84·1	88·2	88·1	86·8	85·0
November	79·9	75·0	76·5	74·3	72·8	76·5	73·2	77·8	69·5	70·3	74·6
December	64·8	66·2	68·9	65·7	70·9	70·1	68·3	70·1	63·8	66·6	67·5
Means ..	77·0	77·8	75·0	76·2	75·6	77·4	76·8	77·9	77·2	77·8	76·9

The extreme monthly mean high-day temperatures in each month are as follows :—

	the lowest was			the highest was		
In January		58°5	in 1880	....	and 71°0	in 1881
February		55°7	„ 1882	....	„ 67°2	„ 1889
March		66°4	„ 1880	....	„ 77°5	„ 1888
April		72°8	„ 1882 and 1883	....	„ 78°0	„ 1887
May		75°3	„ 1882	....	„ 83°4	„ 1885
June		79°6	„ 1882	....	„ 86°0	„ 1886
July		84°4	„ 1882 and 1883	....	„ 88°5	„ 1888
August		86°0	„ 1884	....	„ 89°9	„ 1881
September		83°7	„ 1884	....	„ 88°3	„ 1880
October		81°8	„ 1884	....	„ 88°2	„ 1887
November		69°5	„ 1888	....	„ 79°9	„ 1880
December		63°8	„ 1888	....	„ 70°9	„ 1884

Thus the mean high day temperature has varied, the most 12°·5 in January, the next in order, 11°·5 in February, and 11°·1 in March ; and the least 3°·9 in August, 4°·1 in July, and 4°·6 in September. The lowest reading in the 10 years was 55°·7 in February, 1882, and the highest, 89°·9, in August, 1881.

The numbers at the foot of the columns show the yearly mean of the high day temperature, the lowest, 75°, was in 1882, and the highest, 77°·9, in 1887.

The highest monthly mean high day temperatures in each year have been as follows :—

In 1880, in August	....	....	....	....	....	89°0
1881 „ August	....	....	....	....	....	89°9
1882 „ September	....	....	....	....	....	87°2
1883 „ August	....	....	....	....	....	88°2
1884 „ August	....	....	....	....	....	86°0
1885 „ August and September	....	....	....	....	....	87°1
1886 „ August	....	....	....	....	....	87°9
1887 „ August	....	....	....	....	....	88°5
1888 „ July	....	....	....	....	....	88°5
1889 „ July	....	....	....	....	....	88°4

So that the maximum has been—

Twice in July.
Seven times in August.
Twice in September.

TABLE VIII.—Monthly Mean of the daily Maximum Temperature at *Blackheath*.

Months.	Years.										Means of 10 years.		
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.			
January ..	37·6	36·0	44·1	45·3	47·5	40·3	39·7	39·0	40·9	40·4	°	°	41·1
February..	47·5	41·9	46·8	47·7	47·5	49·6	37·0	43·6	38·9	41·9	41·2		41·2
March ..	54·2	50·9	54·2	44·2	52·1	48·0	44·7	44·2	43·8	47·7	48·4		48·4
April ..	55·8	55·4	56·6	57·3	53·7	57·8	52·8	52·7	51·3	54·3	54·8		54·8
May ..	63·8	64·6	65·4	63·0	64·7	60·9	60·8	58·2	63·9	66·7	63·2		63·2
June ..	67·6	69·1	64·9	69·8	67·2	72·1	66·7	72·2	68·8	72·3	69·1		69·1
July ..	72·1	76·0	70·4	69·0	72·9	76·3	72·7	77·8	67·4	70·9	72·6		72·6
August ..	71·7	67·6	69·3	72·0	76·5	68·5	70·7	72·9	68·8	70·9	70·9		70·9
September.	68·9	63·1	63·2	65·1	68·2	63·1	66·7	61·9	63·1	63·9	64·7		64·7
October ..	52·5	51·6	56·8	56·4	55·7	51·2	59·5	51·1	52·9	54·8	54·3		54·3
November	47·7	51·6	48·1	48·7	47·2	47·1	48·7	43·9	50·6	49·0	48·2		48·2
December ..	47·1	43·5	43·8	43·8	45·0	41·8	40·4	40·4	41·5	40·9	43·1		43·1
∞ Means ..	57·2	55·9	57·0	56·8	58·2	56·4	55·0	54·8	54·2	56·1	56·2		56·2

The extreme monthly mean high-day temperatures in each month are as follows :—

The lowest was		The highest was	
°		°	
In January	36·0	in 1881	and 47·5 in 1884.
February	37·0	1886	„ 49·6 1885.
March	43·8	1888	„ 54·2 1880, 1882.
April	51·3	1888	„ 57·8 1885.
May	58·2	1887	„ 66·7 1889.
June	64·9	1882	„ 72·3 1889.
July	67·4	1888	„ 77·8 1887.
August	67·6	1881	„ 76·5 1884.
September	61·9	1887	„ 68·9 1880.
October	51·1	1887	„ 59·5 1886.
November	43·9	1887	„ 51·6 1881.
December	40·4	1886, 1887	47·1 1880.

Thus the mean high-day temperature has varied, the most 12°·6 in February, 11°·5 in January, and 10°·4 in March, agreeing very nearly with the changes at Sarona in the same months ; and the least, 6°·5 in April, 6°·7 in December, and 7°·0 in September, not agreeing with Sarona.

The lowest monthly reading in the 10 years was 36° in January, 1881, being 19°·7 lower than the lowest reading at Sarona ; and the highest was 77°·8 in July, 1887, being 12°·1 lower than the highest at Sarona.

The numbers at the foot of the columns show the mean high-day temperature for each year. By comparing them with those at the foot of the columns in corresponding table at Sarona, it will be seen those at Sarona are much higher. The year of least difference, 17°·4, was in 1884, and that of greatest difference, 23°·1, was in 1886. The mean excess of the 10 years was 20°·7.

By comparing the numbers in Tables VII. and VIII. month by month, it will be seen that the readings at Sarona were higher in every month than at Blackheath, and the excess varied, in—

January	from ....	....	12·7 in 1884 to 35·0 in 1881
February	„ ....	....	8·9 „ 1882 „ 30·0 „ 1886
March	„ ....	....	12·2 „ 1880 „ 33·7 „ 1888
April	„ ....	....	15·4 „ 1885 „ 25·3 „ 1887
May	„ ....	....	9·9 „ 1882 „ 22·5 „ 1885
June	„ ....	....	10·7 „ 1885 „ 19·3 „ 1886
July	„ ....	....	8·1 „ 1887 „ 21·1 „ 1888
August	„ ....	....	9·5 „ 1884 „ 22·3 „ 1881
September	„ ....	....	10·5 „ 1886 „ 25·0 „ 1881
October	„ ....	....	24·1 „ 1886 „ 37·1 „ 1887
November	„ ....	....	28·9 „ 1888 „ 33·9 „ 1887
December	„ ....	....	17·7 „ 1880 „ 29·7 „ 1887

By taking the difference between the numbers in the last column of Tables VII. and VIII., the mean monthly excess of high-day temperature at Sarona over that at Blackheath in—

January	....	....	....	....	was	22 ^o ·1
February	....	....	....	....	„	19·7
March ....	....	....	....	....	„	21·4
April ....	....	....	....	....	„	20·1
May ....	....	....	....	....	„	15·9
June ....	....	....	....	....	„	14·2
July ....	....	....	....	....	„	13·5
August ....	....	....	....	....	„	17·1
September	....	....	....	....	„	22·4
October ....	....	....	....	....	„	30·7
November	....	....	....	....	„	26·4
December	....	....	....	....	„	24·4
And the mean yearly daily excess	....	....	....	....	„	20·7

TABLE IX.—Monthly Mean of the nightly Minimum Temperature at *Soroca*.

Month.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	42·9	43·0	43·7	48·7	40·9	46·6	49·3	44·9	44·9	49·0	45·9
February..	45·8	47·6	44·0	45·6	46·2	45·6	48·7	44·0	49·1	47·8	46·4
March ..	46·9	48·1	47·1	49·4	48·3	48·9	49·0	46·6	53·1	52·3	49·0
April ..	52·0	56·9	51·9	50·0	53·4	53·2	51·8	52·9	54·8	51·5	52·8
May ..	57·0	56·8	55·4	55·2	57·0	60·0	56·0	56·3	58·1	60·8	57·3
June ..	63·5	58·9	59·3	63·6	63·7	64·8	63·5	62·7	63·2	64·0	62·7
July ..	67·0	67·1	65·5	67·0	66·0	68·8	65·6	66·1	69·2	69·5	67·2
August ..	69·0	70·3	68·7	69·4	68·9	68·3	69·2	69·1	70·3	70·3	69·4
September	65·2	68·1	66·3	61·0	64·3	67·1	66·3	67·3	67·3	69·7	66·3
October ..	62·6	61·5	60·6	61·8	60·5	63·3	60·6	63·8	67·5	63·0	62·5
November	57·6	55·9	56·0	54·5	52·9	53·9	52·9	57·2	53·1	50·2	51·4
December	49·0	47·4	50·9	46·6	48·6	51·9	48·1	50·9	48·2	48·9	49·0
Means ..	56·5	57·2	55·8	56·1	55·9	57·7	56·7	56·8	58·2	58·1	56·9

The numbers in this table showing the monthly mean of the low night temperatures are all high ; the following shows the extremes in every month in the 10 years. It varied in

January	from	....	40° ⁰ in 1884 to 49° ³ in 1886
February	„	....	44° ⁰ „ 1882 & 1887 to 49° ¹ in 1888
March	„	....	46° ⁶ in 1887 to 53° ¹ in 1888
April	„	....	50° ⁰ „ 1883 „ 56° ⁹ „ 1881
May	„	....	55° ² „ 1883 „ 60° ⁸ „ 1889
June	„	....	58° ⁹ „ 1881 „ 64° ⁸ „ 1885
July	„	....	65° ⁵ „ 1882 „ 69° ⁵ „ 1889
August	„	....	68° ³ „ 1885 „ 70° ³ „ 1881, 1888, 1889
September	„	....	61° ⁰ „ 1883 „ 69° ⁷ „ 1889
October	„	....	60° ⁵ „ 1884 „ 67° ⁵ „ 1888
November	„	....	50° ² „ 1889 „ 57° ⁶ „ 1880
December	„	....	46° ⁶ „ 1883 „ 51° ⁹ „ 1885

Thus the low night temperature has varied the least 2° in August, the next in order 4° in July, and the most 8°·7 in September, and the next in order 8°·4 in January. The lowest mean reading in the 10 years was 40°·9, and the highest was 70°·3.

The numbers at the foot of the columns in Table IX. show the yearly mean of the low night temperature, the lowest, 55°·8, was in 1882, and the highest, 58°·2, was in 1888.

The lowest monthly mean low night temperature in each year was as follows :—

In 1880	....	....	....	was	42°·9 in January.
1881	....	....	....	„	47°·4 „ December.
1882	..	....	....	„	43°·7 „ January.
1883	..	....	....	„	45°·6 „ February.
1884	....	....	....	„	40°·9 „ January.
1885	....	....	....	„	45°·6 „ February.
1886	....	....	....	„	48°·1 „ December.
1887	....	..	....	„	44°·0 „ February.
1888	....	..	....	„	44°·9 „ January.
1889	....	..	....	„	47°·8 „ February.

Therefore the lowest monthly mean has occurred—

Four times in January.

Four times in February.

Twice in December.

TABLE X.—Monthly Mean of the nightly Minimum Temperature at *Blackheath*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	27·4	27·3	36·1	37·0	38·9	31·3	30·1	30·2	31·6	30·0	32·0
February ..	35·6	34·3	37·2	37·6	36·8	38·0	28·8	32·8	29·4	30·8	34·2
March ..	36·3	36·3	38·9	30·6	38·0	32·6	33·1	30·9	31·8	32·3	34·1
April ..	39·1	38·5	41·0	39·5	38·4	38·8	39·1	34·8	35·5	38·3	38·3
May ..	41·9	45·6	46·2	45·7	45·1	41·8	44·2	42·1	42·9	48·0	44·4
June ..	48·3	51·1	49·9	51·2	50·3	50·0	49·0	50·5	49·6	51·9	50·2
July ..	52·1	56·0	53·7	52·8	54·7	54·2	53·8	54·9	50·4	53·3	53·6
August ..	54·4	52·3	53·5	54·4	55·2	50·7	53·8	52·0	50·5	51·3	52·8
September	50·6	50·0	48·3	50·8	52·6	48·2	51·6	46·3	47·9	47·9	50·4
October ..	39·0	40·2	45·3	44·9	42·9	40·4	46·5	37·5	35·9	41·2	41·4
November	36·0	41·8	39·0	37·7	37·2	38·1	37·5	34·9	40·7	37·8	38·1
December	37·0	35·0	36·0	36·0	36·7	32·9	32·0	31·2	33·3	31·1	34·1
Means ..	41·5	42·4	43·8	43·2	43·9	41·4	41·6	39·8	40·0	41·2	42·0

These numbers are a great contrast indeed to those in Table IX. They have varied in each month as follows :—

January	from ....	....	27°3 in 1881 to 38°9 in 1884
February	„ ....	....	28°8 „ 1886 „ 38°0 „ 1885
March	„ ....	....	30°6 „ 1883 „ 38°9 „ 1882
April	„ ....	....	34°8 „ 1887 „ 41°0 „ 1882
May	„ ....	....	41°8 „ 1885 „ 48°0 „ 1889
June	„ ....	....	48°3 „ 1880 „ 51°9 „ 1889
July	„ ..	....	50°4 „ 1888 „ 56°0 „ 1881
August	„ ..	....	50°5 „ 1888 „ 55°2 „ 1884
September	„ ..	....	46°3 „ 1887 „ 52°6 „ 1884
October	„ ..	....	35°9 „ 1888 „ 46°5 „ 1886
November	„ ..	....	34°9 „ 1887 „ 41°8 „ 1881
December	„ ....	....	31°1 „ 1889 „ 37°0 „ 1880

Thus no month has been so uniform in temperature as the corresponding month has been at Sarona. The month of June has varied 3°6; the next in order was August, 4°7. The month of greatest change, 11°6, was in January, and the next in order, 10°6, was in October. The lowest mean reading in the 10 years was 27°3, being 13°6 below the lowest at Sarona; and the highest was 56°0, being 14°3 below that at Sarona, viz., 70°3 in August.

The lowest monthly mean of low night temperature in each year at Blackheath was as follows. In—

1880	.....	.....	27°4 in January.
1881	.....	.....	27°3 „ January.
1882	.....	.....	36°0 „ December.
1883	.....	.....	30°6 „ March.
1884	.....	.....	36°7 „ December.
1885	.....	.....	31°3 „ January.
1886	.....	.....	28°8 „ February.
1887	.....	.....	30°2 „ January.
1888	.....	.....	29°4 „ February.
1889	.....	.....	30°0 „ January.

Therefore the lowest monthly mean of low night temperature has occurred—

Five times in January.

Twice in February.

Once in March.

Twice in December.

The numbers at the foot of the columns in Table X. show the yearly mean of the low night temperature at Blackheath. The lowest was $39^{\circ}8$ in 1887, and the highest was $43^{\circ}9$ in 1884, being $16^{\circ}0$ and $14^{\circ}3$ respectively colder than those at Sarona.

By taking the difference between the numbers in the last columns of Tables IX. and X., the mean monthly excess of low night temperature at Sarona over that at Blackheath in—

January	....	....	....	....	....	was	13.9
February	....	....	....	....	....	„	12.2
March	...	....	....	....	...	„	14.9
April	....	....	....	....	...	„	14.5
May	..	....	...	....	....	„	12.9
June	....	....	....	....	....	„	12.5
July	....	....	....	....	...	„	13.6
August	....	....	....	....	....	„	16.6
September	....	....	....	....	....	„	15.9
October	....	....	....	....	....	„	21.1
November	....	....	....	....	....	„	16.3
December	....	....	....	....	....	„	14.9
And the mean excess for the year	....	....	....	....	....	„	14.9

TABLE XI.—Monthly Mean daily range of Temperature at *Narona*.

Months.	Years.										Means of 10 Years.	
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.		
January ..	15·6	23·0	17·4	15·7	19·3	15·7	15·4	18·5	16·8	15·2	°	17·3
February..	19·7	17·2	11·7	17·2	14·1	19·7	18·3	20·3	17·0	19·4	17·5	17·5
March ..	19·5	20·3	21·7	21·1	18·2	21·2	18·7	21·3	24·4	21·5	20·8	20·8
April ..	23·2	20·7	20·9	22·8	24·4	20·0	21·2	25·1	19·9	22·6	22·1	22·1
May ..	23·9	23·3	19·9	21·5	20·2	23·4	20·5	23·9	20·1	21·4	21·8	21·8
June ..	20·3	24·3	20·3	19·5	20·7	18·0	22·5	21·2	19·2	20·4	20·6	20·6
July ..	20·3	19·1	18·9	17·4	19·0	16·9	20·4	19·8	19·3	18·9	18·9	18·9
August ..	20·0	19·6	17·9	18·8	17·1	18·8	18·7	19·4	18·1	18·0	18·6	18·6
September	23·1	20·0	20·9	27·7	19·4	20·0	20·9	19·3	19·8	17·1	20·8	20·8
October ..	22·1	21·8	22·7	22·3	21·5	22·3	23·5	24·4	20·6	23·8	22·5	22·5
November	22·3	19·1	20·5	19·8	19·9	22·6	20·3	20·6	16·4	20·1	20·2	20·2
December	15·8	18·8	18·0	19·1	22·3	18·2	20·2	19·2	15·6	17·7	18·5	18·5
Means ..	20·5	20·6	19·2	20·2	19·7	19·7	20·1	21·1	18·9	19·7	20·0	20·0

The mean daily range in each month has varied in 10 years as follows :

			°			
January	from	....	....	15·2 in 1889	to	23·0 in 1881
February	,,	....	....	11·7 „ 1882	,,	20·3 „ 1887
March	,,	....	....	18·2 „ 1884	,,	24·4 „ 1888
April	,,	....	....	19·9 „ 1888	,,	25·1 „ 1887
May	,,	....	....	19·9 „ 1882	,,	23·9 „ 1880, 1887
June	,,	....	....	18·0 „ 1885	,,	24·3 „ 1881
July	,,	....	....	16·9 „ 1885	,,	20·4 „ 1886
August	,,	....	....	17·1 „ 1884	,,	20·0 „ 1880
September	,,	....	....	17·1 „ 1889	,,	27·7 „ 1883
October	,,	....	....	20·6 „ 1888	,,	24·4 „ 1887
November	,,	....	....	16·4 „ 1888	,,	22·6 „ 1885
December	,,	....	....	15·6 „ 1888	,,	22·3 „ 1884

The smallest range in any month was 11°·7 in February, 1882, and the largest was 27°·7 in September, 1883.

The greatest monthly mean daily range of temperature at Sarona in

1880	....	....	....	was	23·9 in May.
1881	....	....	....	,,	24·3 „ June.
1882	....	....	....	,,	22·7 „ October.
1883	....	....	....	,,	27·7 „ September.
1884	....	....	....	,,	24·4 „ April.
1885	....	....	....	,,	23·4 „ May.
1886	....	....	....	,,	23·5 „ October.
1887	....	....	....	,,	25·1 „ April.
1888	....	....	....	,,	24·4 „ March.
1889	....	....	....	,,	23·8 „ October.

The greatest monthly range of temperature in 10 years, therefore, has occurred—

Once in March.
 Twice in April.
 Twice in May.
 Once in June.
 Once in September.
 Three times in October.

TABLE XII.—Monthly Mean daily Range of Temperature at *Blackheath*.

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Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	10·2	8·7	8·0	8·3	8·6	9·0	9·6	8·8	9·4	10·4	9·1
February..	11·9	7·7	9·6	10·1	10·7	11·6	8·2	10·9	9·5	11·1	10·1
March ..	17·9	14·6	15·3	13·6	14·1	15·4	11·6	13·3	12·0	15·4	14·3
April ..	16·7	16·9	15·6	17·8	15·3	19·0	13·7	17·6	15·8	15·9	16·4
May ..	21·9	19·0	19·2	17·3	19·6	19·1	16·6	16·2	21·0	18·7	18·8
June ..	19·3	18·0	15·0	18·6	16·9	22·1	17·7	21·7	19·2	20·4	19·0
July ..	20·0	20·0	16·7	16·2	18·2	22·1	18·9	22·9	17·0	17·6	19·0
August ..	17·3	15·2	15·8	17·6	21·3	17·8	16·9	20·9	18·3	19·6	18·0
September	18·3	13·1	14·9	14·3	15·6	14·0	15·1	15·6	15·2	16·0	14·3
October ..	13·5	11·5	11·5	11·5	12·8	10·8	13·0	13·6	17·0	13·7	12·0
November .	11·7	9·8	9·1	11·0	10·0	9·0	11·2	9·0	9·9	11·2	10·2
December .	10·1	8·5	7·8	7·8	8·3	8·9	8·4	9·2	11·2	9·8	9·0
Means ..	15·7	13·6	13·2	13·7	14·3	15·0	13·4	15·0	14·2	14·9	14·3

The monthly mean daily range of temperature has varied in 10 years

In January	from ....	....	8.0 in 1882 to 10.4 in 1889
February	„ ....	....	7.7 „ 1881 „ 11.9 „ 1880
March	„ ....	....	11.6 „ 1886 „ 17.9 „ 1880
April	„ ....	....	13.7 „ 1886 „ 19.0 „ 1885
May	„ ..	...	16.2 „ 1887 „ 21.9 „ 1880
June	„ ....	....	15.0 „ 1882 „ 22.1 „ 1885
July	„ ....	....	16.2 „ 1883 „ 22.9 „ 1887
August	„ ....	....	15.2 „ 1881 „ 21.3 „ 1884
September	„ ....	....	13.1 „ 1881 „ 18.3 „ 1880
October	„ ....	....	10.8 „ 1885 „ 17.0 „ 1888
November	„ ...	...	9.0 „ 1885 & 1887 to 11.7 in 1880
December	„ ....	....	7.8 „ 1882 & 1883 „ 11.2 „ 1888

The smallest mean daily range of temperature in any month was 7°.7 in February, 1881, and the largest was 22°.9 in July, 1887.

The greatest monthly mean daily range of temperature at Blackheath in—

1880	....	....	....	....	was 21.9 in May.
1881	....	..	....	....	„ 20.0 „ July.
1882	....	...	....	....	„ 19.2 „ May.
1883	....	....	....	....	„ 18.6 „ June.
1884	....	..	....	....	„ 21.3 „ August.
1885	....	....	....	....	„ 22.1 „ June and July.
1886	....	....	....	....	„ 18.9 „ July.
1887	...	..	...	....	„ 22.9 „ July.
1888	...	..	....	„	21.0 „ May.
1889	....	..	..	....	„ 20.4 „ June.

Therefore the greatest monthly mean daily range of temperature has occurred—

Three times in May.

Three times in June.

Four times in July.

Once in August.

By comparing the numbers in Tables XI. and XII., it will be seen that the monthly mean daily ranges of temperature at Sarona in the years 1880, 1882, 1883, and 1886, were all larger than those at Blackheath. The differences, however, were small in the months from May to August. In each of the remaining years—one month, at least, in each year—the range was larger at Blackheath than at Sarona.

The difference between monthly mean of daily ranges at Sarona and Blackheath varied in—

January	from	....	+ 4·8	in 1889	to	+ 14·3	in 1881
February	"	....	+ 2·1	" 1882	"	+ 10·1	" 1886
March	"	....	+ 1·6	" 1880	"	+ 12·4	" 1888
April	"	....	+ 1·0	" 1885	"	+ 9·1	" 1884
May	"	....	— 0·9	" 1888	"	+ 6·7	" 1887
June	"	....	— 4·1	" 1885	"	+ 6·3	" 1881
July	"	....	— 3·1	" 1887	"	+ 2·3	" 1888
August	"	....	— 4·2	" 1884	"	+ 4·4	" 1881
September	"	....	+ 1·1	" 1889	"	+ 13·4	" 1883
October	"	....	+ 3·6	" 1888	"	+ 11·8	" 1883
November	"	....	+ 6·5	" 1888	"	+ 13·6	" 1885
December	"	....	+ 4·4	" 1888	"	+ 14·0	" 1884

The sign + implies greater range at Sarona than at Blackheath, and the sign — that the range at Sarona was smaller than at Blackheath.

By taking the difference between the numbers in the last columns of Tables XI. and XII., the mean difference between the daily ranges of temperature at Sarona and Blackheath in every month is shown, and are as follow :—

The mean range of daily temperature in—

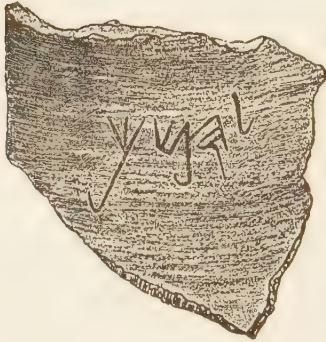
January	is greater than at Blackheath by	8·2
February	" " "	7·4
March	" " "	6·5
April	" " "	5·7
May	" " "	3·0
June	" " "	1·6
July	is smaller	0·1
August	is greater	0·6
September	" " "	6·5
October	" " "	9·6
November	" " "	10·0
December	" " "	9·5

Thus the greatest differences are in the winter months ; the next in order are the spring months, and the least are in the months from May to August.

NOTES ON HEBREW AND JEWISH INSCRIPTIONS.

By Prof. CLERMONT-GANNEAU.

I.



THE HEBREW INSCRIPTION FROM TELL EL HESY.

"I HAVE just read in the last *Quarterly Statement* (1891, April, p. 158) a note relating to the inscription from Tell el Hesi, for a squeeze of which I asked you some time ago, but have not yet received.

"I have had, on two occasions, to discuss publicly this very curious inscription, at a meeting of our Academy of Inscriptions and Belles Lettres, towards the end of the year 1890, and at the Collège de France, in my lectures upon "Epigraphie et Antiquités Sémitiques."

"Major Conder, M. Sayce, and your anonymous correspondent have, in my opinion, quite missed the true reading of this little inscription. It is impossible to read, as these gentlemen propose, להנוך (Conder), or לסמך (Sayce), or להמך (Anonymous). The true reading is לחשך; the letter *schin* is closely joined to the letter *khet*, but this accidental contact should not be taken into account in its deciphering.

"Four characters of an excellent form are obtained thus, the paleography of which is entirely archaic *Hebrew*; the hook of the tail of the *kaph* is, in this last respect, altogether demonstrative. חשך is a proper name of a man, derived from the root חשך, in the sense "to save, to preserve, to spare" (= post-Biblical Hebrew, חסך); the name should probably be vocalised *Hasoûk* (חש(ו)ך), and the inscription, as a whole, should be translated thus: "belonging to Hasoûk."

"I repeat my request for the squeeze of this very interesting little text.

"I should like to know at the same time if it has been traced on the clay before baking, or cut afterwards in *graffito*."

II.

JEWISH INSCRIPTIONS ON OSSUARIES.

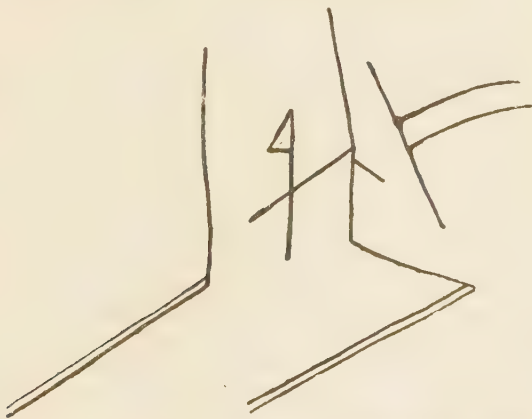
a.

"The examination of the squeeze of the Hebrew inscription which I have made, confirms the opinion I expressed in my preceding note to you. It is unquestionably a Hebrew inscription in square cursive characters, bearing the greatest resemblance to those of the ossuaries from the Mount of Offence.¹ The first letter is certain, it is a *schîn*. The second is most probably a *lamed*, the tracing of which has been interrupted by the slipping of the tool of the stone-cutter. The third looks like a *van*; on the tracing you first sent me it was reduced to a simple vertical stroke, but the squeeze plainly shows its little triangular head, which removes any doubt one might have of it.

"The only doubtful character is the last; I am disposed to consider it as incomplete, and think that a final *mem* must be seen in it; the restoration [שלום] forcibly suggests itself. One may possibly see in the word thus read the substantive *Schalom*, "peace," or perhaps the proper name of a man, *Schalloum*, or, better, the proper name of a woman, *Schalom* = *Salomé*.

"I am inclined to think the last explanation correct, having already found on the ossuaries from the Mount of Offence, the woman's Hebrew name *Salome* so written. Moreover, another accessory particularly tends to show that the ossuary was destined to receive the remains of a woman rather than those of a man, namely, the triangular form of the lid. Generally this form of lid in Palestinian ossuaries and even in sarcophagi seems rather to point out the funeral monument of a woman.

"Here is the inscription as I read it from the squeeze:—



¹See my memoir, "Epigraphes Hébraïques et Grecques sur des Ossuaires Juifs inédits," Paris, 1883.

b.

Κρόκος.

“THE stone cutter had at first written **KOKOC**, having omitted the **P**, which he afterward superadded. The masculine proper name *Κρόκος*, of which the etymological meaning is *saffron*, has already been met with in a Greek inscription in Egypt (proscynème at Wad Fawakher, *Corp. Inscript. Graecar.* III, *Add.* No. 4716 d 44, p. 1197). One of the ossuaries from the Mount of Offence (No. 15 of the memoir before quoted), an ossuary remarkable for its small dimensions, apparently indicating that it was designed to receive the remains of a child, bears the Hebrew name קרקם. I had supposed that this strange name concealed a transcription of a Greek name such as *Κύρικος*, *Κούρικος*, *Κυριακός*, &c. I now think that קרקם is no other than *Krokos*; the transcription is strictly that which may be expected according to the rules of Hebrew transcription of Greek, and, on the other hand, we now have positive proof that the name of *Κρόκος* was really in use in the Greco-Jewish onomastics.

c.

“I was unable to make anything of the tracing you sent me, but the squeeze which I now have before me enables me to arrive at the following reading which I consider as almost certain :—

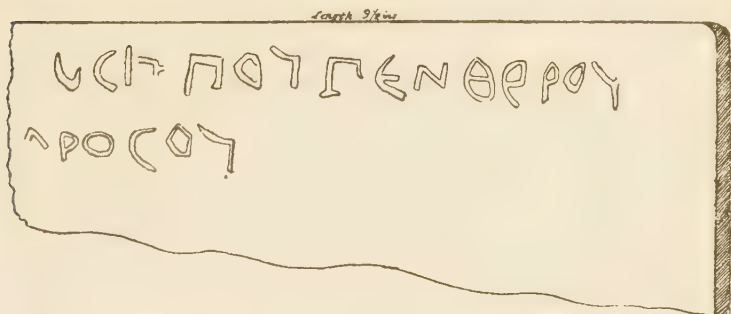
[Ἰω]σὴπου πενθεροῦ
[Δρ]όσου

(*belonging*) to *Joseph*, father(?)-in-law of *Drosos*.

“The inscription is incomplete on the left by reason of a fracture of the monument which cuts off the commencement of the two lines. On the first line the fracture has caused the whole *I* to disappear and part of the *ω* of the name Ἰωσηπος (genitive case), an exact and well-known transcription of the Hebrew name *Joseph*. I have often met with the letter *η* under this cursive form in Greek inscriptions on Jewish ossuaries. The *υ*, in spite of the singular form that it affects three times, is not doubtful; this form is interesting for the history of Greek paleography.

“The word *πενθερός* indicates in Greek a relationship with parents by

alliance which is variable : generally it is father-in-law, the father of the wife, sometimes also it is the son-in-law, or even the brother-in-law



"The reading of the second name *Δρόσος* is partly conjectural, the Δ and the ρ are disfigured by a fracture, but I believe I have recovered them by a careful examination of the squeeze.

"The man's name, thus obtained by restoration, has good guarantee = *Δρόσος* (Orelli, No. 1260 K). Compare the feminine names *Δρόσιον* and *Δροσίς*. I am inclined to think that *Δρόσος* is meant for *Δροῦσος*, an ordinary transcription of a well-known Roman name *Drusus*; similarly *Δρόσιλλα* (Nicet. Eng., I. 74-353) is for *Δρόνσιλλα*, *Drusilla*, a woman's name derived from *Drusus*. (cf. *Δρόσυλα*, on an Umbrian vase, *Raoul-Rochette, lettre à M. Schorn*, 15).

"The names of *Drusus* and *Drusilla*, which were borne by many Romans belonging to the "gens Livia," appear, from the records, to have been in favour among the Jews about the time of Herod Agrippa I. This prince, desiring to flatter the Romans by taking the names of the imperial family, gave that of *Drusilla* to one of his daughters (who afterwards married the procurator of Judea, Felix, and is mentioned in the History of St. Paul, *Acts xxiv*, 24), and that of *Drusus* to one of his sons, who died before attaining the age of manhood. (*Joséphe, Antiq. Jud. xviii*, 5 : 4.)

"Consequently the name of *Drusus* was rather in vogue among the Jews in the first century of our era, which would well accord with the probable date of our ossuaries, and render so much the more probable the reading I propose for the mutilated name, *Δρόσος* = *Δροῦσος* = *Drusus*.

"There is mention in the Talmud (j. *Soma*, IV., 41d., j. Schabb, I., 4a, &c.) of a *Rabbi Derosa* or *Derosai* (דרוסא, דרוסה, דרוסא) whose name appears to be the Hebrew transcription of the Greco-Roman name *Δρόσος*. It is known that the use of these foreign names was very common among the ancient rabbis, even those who were most attached to their religious faith."

MAHANAIM.

By MAJOR CONDER, R.E.

THIS city, one of the most important and interesting in Gilead, has usually been placed far north at *Birket Mahneh*, but, as I have attempted to show in "Heth and Moab," considerable confusion arises from such an identification (chap. vi, pp. 179-181, 1st edition); and I have proposed, therefore, to seek it much further south, somewhere east of Es Salt. After meeting Laban at Mizpeh (probably *Sâf*), Jacob went on his way to Mahanaim (Gen. xxxii, 2). Thence he went to Penuel (v. 30), and afterwards rejoined his family, which had crossed the Jabbok (v. 22), and journeyed to Succoth (Gen. xxxiii, 17). If, then, Succoth be where Dr. Selah Merrill has shown it to be—at Tell Der'ala, north of the Jabbok—Mahanaim should be sought somewhere south of the same, and near Penuel, which I have proposed to place at Neby Osh'a.

In Joshua xiii, 26-30, Mahanaim appears as the capital of a district, and as the east limit of Gad, as contrasted with "the border of Debir," or "limit of the ridge." It was a city of refuge (Josh. xxi, 38); the refuge of Ishbosheth beyond the "gorge" (*Bithron*), and evidently on the highlands (2 Sam. ii, 8, 12, 29). A man could thence be seen running on a plain, by David, when finding refuge there (2 Sam. xviii, 24-27; cf. 2 Sam. xix, 32; Kings ii, 8), and it was at some distance from the wood of Ephraim, which was beyond Jordan (2 Sam. xviii, 6; cf. xvii, 26). It was not in the same region with Ramoth Gilead (*Reimân*), since it was the capital of another province (1 Kings iv, 14; cf. 1 Chron. vi, 80). Finally, in Canticles (vi, 13), we read of the "company of two armies" (*כַּמְחֹלַת הַמַּחֲנִיִּים*), which has been variously rendered, "dance of Mahanaim" and "dance of a double choir." The word is thus derived from the root *חול* *חול* "to be round;" (*מחולה*), which is a common geographic term for a circular basin or a "circuit," as, for instance, in the case of Abel Meholah (now *'Ain Helweh*).

The name Mahanaim (*מַחֲנֵיִם*) is also geographical, meaning "camp" or "camps" (Gesen); compare the Mahaneh Dan, or "plain of the camp of Dan," near Zorah and Eshtaol. In Arabic it becomes *Mukhnah* (*مُخْنَة*), as in the case of the well-known plain so called near Shechem, and the term would seem to indicate a plain.

On the newly issued map with ancient nomenclature will be found marked, east of Es Salt, the curious depressed plain of circular shape, which is called *El Buki'a*, "the little vale," or, in the vulgar Bedu dialect, *El Beja*. This is the position in which I have supposed Mahanaim to lie. A main road from Salt runs on the west side of the plain northwards, which I followed in 1882, going to Jerâsh. Here will be found marked the ruin *Mukhmah* (*مُخْمَة*), which appears to me to

preserve, somewhat distorted, the name of Mahanaim. The substitution of *m* for *n* is not a very strong objection, since in Syrian speech these two letters are often interchanged. The plain is several miles across, about 2,000 feet above sea level, with hills from 1,000 to 1,500 feet higher round it. The soil is sandy and fertile, the hills are of limestone. There is an important ancient ruin called *El Basha*, about a mile to the south with a fine clear spring. The ruins consist of a tower and round arched vaults, such as occur in many other ancient sites in Gilead, but which are probably of the second to fifth century A.D. Here, I think, we may therefore place the long lost Mahanaim, in a fertile district, near Penuel, south of the Jabbok, and east of the woods whence Salt (*Saltus Hieraticus*) took its name. The runners could be seen at some distance on the level road west of the plain, and the "circle" of Mahanaim would be the circle of the curious basin in which it stands. The northern site should be abandoned as not suiting the geographical requisites of the case.

ALTAIC LETTER FROM TELL AMARNA.

By MAJOR CONDER, R.E.

AMONG the 300 letters from Tell Amarna (1500-1450 B.C.) the longest of all is written to Amenophis III, by Dusratta, King of Mitani, or the region immediately east of the Euphrates, opposite the Hittite city of Carchemish. The first seven lines are in Assyrian, but, after this introduction, follow 505 lines in his own language. Dusratta wrote other letters in Assyrian which have been translated, and one of which refers to the same persons, Gilias and Manis, who are mentioned in this letter, of which many paragraphs are fairly well preserved, though others are too much broken to be read. The writing is syllabic, in an old cuneiform character, with a few determinatives.

Although the letter has not been translated, the meanings of a few words have been determined by Dr. Sayce and other scholars, and judging from these words, and from the terminations of verbs and nouns, it appears to me to be clear that the whole is written in a Mongol dialect, akin to the Akkadian and Medic. I am unable to find any resemblance to the Aryan language of the Vannic tribes, nor has Dr. Sayce pointed out any, save a termination which also occurs in Akkadian. The known words are also not the same that stand for the same sense in Vannic. The vocabulary is very large, and great difficulties will no doubt arise in attempting to render the meaning, without the aid of bilinguals, but many of the words at once recall well-known Medic and Akkadian terms, and the same may be said of the commoner terminations.

The Assyrian introduction is much damaged, but the names of Amenophis and of Dusratta have already been recognised, with the

usual invocation of peace and prosperity for the receiver of the tablet
It appears roughly to have run as follows :—

“To Amenophis the third the [King] of Egypt, from Dusratta King
[of Mitani]. I am at peace . . . may there be peace to
to thy ladies, to thy nobles, to thy horses, to thy land, and to all
that is thine exceedingly.”

The words which frequently recur, and of which the meaning is supposed to be known, are as follows :—

Atta, “Father.” Akkadian, *Adda*; Medic, *Ate*; Turkish, Ata , *ata*.

Amat, “grandfather;” *Am-at*, “father’s father.” Compare the Tunguse *ama*, “father.”

Sen, “brother.” Compare the Turkic *yin*, a “younger brother,” the *s* being often softened to *y*. In Cantonese we have *hing*, “brother.”

Dubsar, “scribe.” Akkadian, *dub*, “tablet,” and *sar*, “master.”

Tsalam, “image” (used in Assyrian). Medic, *zal zalmu*, “image.”

Enippi, “God.” Medic and Susian, *annap*.

Ti, “word.” Turkic, *tia*, “say.”

Pireta, “I have sent.” Turkic, *pir*, “to go,” *pirat*, “to despatch.”

U, “I” (or *Hu*). Medic, *U*, *Hu*, “I.”

Nikhari, “written.” Turkic, *khar*, “to engrave.”

Talami, “interpreter.” Turkic, *talamis*, “interpreter.”

Atinin, “these.” Turkic, *Atin*, “that,” “this.”

-*na*, plural ending. Mongol, -*na*; Akkadian, -*ene*.

-*s*, termination of the nominative, as in Hittite and Cassite.

Tissan Tissan, an adverb. Probably the Turkic *tis*, “quick,” meaning “very quickly.” Dr. Sayce renders it *vehementer*.

Tip, “to send.” Medic, *tip*, “send.”

To these words, which all point in one direction, I think we may add others which are equally suggestive, and of which a careful study of the text, as given by Dr. Winckler, shows the occurrence to be in accordance with the proposed interpretation. As instances may be cited—

Paza, “moreover.” Turkic, *paza*, “again,” “anew.”

Khakhani, “Princes.” Turkic, *Khakhan*, “Prince.”

Khiarukka, “contracted.” Turkic, *Khia*, “to bind,” “to wed.”

Umun, “Lord.” Akkadian, *Umun*.

The name of the land of Egypt in this letter is written either *Mazri* or *Mizri* in different passages, and the Egyptians are called *Mizrippi* like the Medic, *Muzzariyap*, “Egyptians.” The country whence the letters are despatched appears to be called KUR U, *Minippi*, “Land of the race of the Minni.” This agrees with the position of *Mitani*, which is the name given to his country by Dusratta in the last part of the letter

The Minni or Minyans were well known to the Assyrians as an Asia Minor people, and to the Egyptians as the *Men* or *Menti*, who are described in Egyptian records as dwelling in Assyria, "East of Syria." They were indeed the same race who, in the Hyksos period, had seized on Egypt itself, but had been driven out some two centuries before the date of the letter under consideration. They seem to have been friendly with the Hittites, since in another of the Tell Amarna letters we read of a Hittite prince who fled to the land of Mitani, where he was captured. Dusratta was allied by marriage with Amenophis III, and his translated letters show that an alliance had also existed in the days of his grandfather or of his father, *Sattarna*, whose name suggests that he was a worshipper of *Nut* (or *Set*), the well-known Hittite god. The language of his letter also seems to indicate that he was of the same race with the Hittites and Akkadians. In modern Turkish this name *Menut* is applied to the Turks of Asia Minor.

The cases of the nouns, and the terminations of the verbs, also serve to show the Mongolic character of the language, as follows :—

Nominative, ¹	-s (as in Cassite, and in some instances in Akkadian).
Genitive, "of,"	-n, Akkadian, -n, Turkish, -n.
Dative, "to,"	-a, " " -eh.
Locative, "at,"	-da, " -da, -deh.
Accusative	-i, " -a, -i.
Ablative, "from,"	-dan, " -den.
Instrumental, "by,"	-la, " -leh, -li.
Comitative, "with,"	-laan, " -ailan.
Causative, "for,"	-ikku, Medic, -ikku, -ichun.

The verb would require much study to understand with certainty, but the following seem to be probable :—

Infinitive, a prefixed *ni* occurs for the active, as in Akkadian : the passive appears to be *-man*.

Past tense, 1st singular, *-ta* (Medic, *-ta*), 3rd singular, *-sa* (Medic, *-s*).

Subjunctive, 3rd singular, *-sena* (Medic, *-sne*).

Imperative, 3rd singular, *-s* (Medic, *-s*).

The greater part of the syllabary is also the same used later in Medic.

¹ NOTE.—The suffix *ippi*, added to the nouns, seems to form the definite case. It does not appear to be a plural. It is to be compared with what Lenormant calls the "absolute case" in Akkadian, which he compares with *-b*, the Lappaccusative, Samoyed *-p*, Mongol *-hen*. Castren derives it from the pronoun of third person, which is the Akkadian demonstrative *b*. In our letter, however, *-ippi* may also be the termination of the third person of verbs in a certain tense, as in Medic also, and apparently in Akkadian. This does not,

In some passages the number of proper names renders the explanation somewhat more easy, but the number of words used is very great, and many of them are probably new, and not to be found in the small stock of inscriptions in cognate languages already understood. It is clear that the general subject relates to the sending of messengers, and to the interpretation of the letter; and the presents sent are also mentioned, while the last part seems to refer to the marriage of a lady. There are also passages in which, as Dr. Sayce has pointed out, the gods are invoked, including *Ammon* of Egypt, and the Akkadian god *Ea*, with *Tessub*, who is already known to have been a god compared by the Assyrians with Rimmon.

If, as seems to me certain from the considerations above noted, the language is one like Akkadian and Hittite (and indeed several of the words are the same used by the Hittite prince Tarkondara in writing to Amenophis III), it is clear that the syntax of a Turanian language must be strictly followed, the verb always standing at the end of the phrase, and not, as in Aryan speech, often first. None of the known words are Aryan, which it is almost unnecessary to say that they are not Semitic. The language, when fully understood, is likely to be of great value in the study of Hittite; and it appears to me that some of the words, and nearly all the pronouns and terminations, are the same found on the Hittite monuments. This view as to the language being Hittite is, I understand, also held in Germany.

I venture on a tentative translation of some of the passages which are most perfect, though these may be subject to revision. The pious invocations are in the same tone found in passages in the Assyrian letters of Dusratta. Thus early in the letter (line 85-90) he prays to "Ammon and Simigin, to Ea, the King of Life," that they "may hasten very speedily . . . assisting also my speech to be spoken in wisdom."

The letter appears to open with good wishes for the countries of the two kings of Egypt and of Mitani in the native language, and then refers to what had happened in the time of Suttarna.

Dusratta introduces his messengers, Manis and Gilias, in separate paragraphs, and proceeds to say: Amenophis, my Egyptian friend, knows that I live far off. I dwell in the city of *Ikhîbin* (or *Idhîbin*), which is the city of the god Simigin, whom my father adored as a deity." The next passage (99) seems to mean, "let these whom I have sent (so far?) be received, soon to approach the hall of thy palace." "Gilies . . . I have despatched who will add what does not appear in writing." "The god Simigin I have besought to prosper these things, prospering these . . .

however, show, as some have argued, that there was no real distinction of verb and noun—which would be impossible in so fully developed a language. In English we do not consider that we have no distinction of these parts of speech, because we use *s* as a termination for both, and also for the possessive. This suffix seems to be the Hittite *-Pe*, represented by a long vase as distinguished from the round pot, *-a*.

from the Land of the Minyan race, with the god Ammon, and with Ea the King of Life."

After various compliments a paragraph referring to "tablets" occurs, and apparently Dusratta asks for an answer. Dr. Sayce renders the word *gipanu*, "papyrus" (Akkadian *gi*, "reed," *pa*, "leaf," *nu* "letter," would be the explanation in such case I should suppose, *i.e.*, "a letter on the pith of the reed"). Further on (col. 2, line 60), Dusratta appears to speak of the treasures sent with the messengers, "Invoking the gods to guard the presents with him," "an account being taken." "Gold" is here mentioned, "heaped up before you in abundance, bountifully given, let the gold be received as a gift." He proceeds: "By word of mouth, by writing, by interpretation, . . . replying soon . . . answering my request quickly."

The writer then again (line 75) invokes the gods, Rimmon and Ammon, "may they cause my words to be received, through their wisdom, if I speak not clearly." This subject occupies a good many lines which follow, after which the writer returns to the question of Manis and the letter, which he apparently is to explain.

Another important passage, well preserved, is at the beginning of the back of the tablet. This refers to the "interpretation" or "translation" of the strange tongue. Dusratta then proceeds to speak of something connected with the letter which was to be done by Manis "with Gilias," and again invokes the assistance of the gods: this section ends up with the names of additional envoys, "also besides Manis, the envoy, to my brother, also besides Gilias, Artesupas and Asalinas are messengers. Asalinas, the interpreter of Gilias, my secretary" (this last clause is due to Dr. Sayce) "since he speaks this language together with my brother's language . . . in my embassy to my brother I have sent."

The next paragraph refers to a present of a gold throne (this has been pointed out already by Dr. Sayce) which was sent with the envoy. Dusratta then begins to reach the subject of his letter, which regards the affiancement or marriage of a lady. The expression, *nin es ie*, clearly means "twenty-three months" (line 60), *ie* being the Akkadian *ai*, "month," "moon" (Turkish *ay* in some dialects, *ye*), and the gods are again invoked in this connection, after which the tablet is much injured. When it again becomes more perfect other deities are mentioned, including *Sin*, the Moon-god, and Ammon. Dusratta's own name occurs lower down (line 127) with the distinctive word *umun*, "Lord," preceding it, followed by the name of Amenophis III, of Egypt." In the next section a country called *Pal nausri* is noticed. The passage seems to refer generally to difficulty in understanding, and to include the sentence, "my brother had ordered a clearly written reply." Then follows a clause possibly referring to the Hittites (line 16) "*âluâ Khati-ma-an danga Esippias dan maan nunkka tilan âpi latakhkha Senippiñallan uru Kharanu sâussena*," perhaps to be rendered, "the chieftain of my people of the land of the Hittites, all

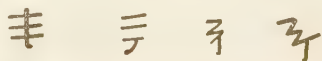
the people whom I conquered with my brother; he rules in the city of Harran."¹ As regards this passage it is to be noted that Egyptian records prove that Amenophis III, at some time during his long reign, had entered the country beyond the Euphrates, where he is said to have hunted lions; and that Harran is usually supposed to have been in the same country, being the abode of Abraham on his way from Babylonia to Syria.

The letter continues to speak of the Land of the Minyans and of Embassies, and apparently of a reply to be sent. It then refers (line 35) to the time of his father and to tablets then written; also (line 53) to Artatas, the grandfather of Dusratta, "before my father," who again is called "my grandfather, my father's father" (as Dr. Sayce has pointed out). It continues (line 67) to refer to Gold in connection with his grandfather and father, and to a contract in the Land of the Minyans "contracted in the presence of the images" (of the gods). This contract seems to refer to a lady (line 90), "the woman my . . . affianced by my brother in the presence of the images," and soon after we read of "my god Sausbe in his presence in the city of Nineveh." The lady's name (line 103) was Tadukhepa, and the passage might perhaps be rendered "Tadukhepa to be taken in marriage, Dusratta of Mitani, ever a friend, desires of his friend Amenophis III, the Egyptian. In the final paragraph there are two references to the "Princes ruling (or living) in the Land of the Minyan race," with a reference to "renewal of friendship and understanding," which no doubt would result from the marriage. Such appears to me to be the general subject of the longest and perhaps most interesting letter in the Tell Amarna collection.

THE LACHISH INSCRIPTION.

By MAJOR CONDER, R.E.

DR. SAYCE's proposal (*Quarterly Statement*, April 1891, p. 158) to read *Li Semak*, depends mainly on his understanding of what he supposes to be the Samech. This appears to me to be quite untenable, because Phœnician letters consist of joined strokes, and not of strokes independent of each other, as in the case of the signs  which he renders as Samech. I subjoin the various early forms of the letter Samech.



¹ The Semitic letters from Tell Amarna speak of the Hittites very often. One mentions a Hittite prince fleeing to the land of Mitani. In others they are noticed as rebels seizing the city of Tunep (Tennib) which belonged to them also in 1360 B.C.

In none of these is there any resemblance to the two letters of the Lachish text, which Dr. Sayce runs into one; whereas, taken separately, they are both well-known forms of the *Heh* and *Nun*. The suggestion of the scholar who does not append his name to his proposal is equally unsatisfactory. He neglects the *Nun* altogether. The *Heh* to which he would give the additional crooked stroke is one of the most constant letters of the Phœnician alphabet.



The early forms are as shown. None of them have more than four strokes. Both the proposed readings must therefore, I think, be rejected, as unsupported by any extant evidence—so far as I am aware. Both scholars seem to me to be puzzled by the last letter but one, which they render *Min*, though it is closely like a form of *Nun* known from the seals of 8th cent. B.C.

THE HEBREWS ON THE TELL AMARNA TABLETS.

By MAJOR CONDER, R.E.

IN the excellent translations of some of these invaluable letters by Father A. J. Delattre, S.J., it is noticed that the name of Canaan is spelt with the same sign which is used in the name of Gaza, to represent the Hebrew guttural *y*, not with the value *Kh* or *Gh*, but with the value *'a*. This agrees with what I have already published as to the *'A biri* in these letters being the Hebrews. As the task of translation goes on it becomes apparent that the language and the system of characters used by the chiefs of Phœnicia and Canaan who were subject to the King of Egypt are neither of them purely Assyrian or Babylonian, but represent the Phœnician or Amorite language and writing of the age of Joshua.

BAAL GAD.

By MAJOR CONDER, R.E.

THIS is a somewhat important place, being the north limit of the Land of Israel according to the Book of Joshua (xi, 17; xiii, 5). Robinson placed it at Baniās, but its position is defined in the two passages as being “in the valley of Lebanon, under Mount Hermon,” and the region inhabited by the Giblites is said to have extended thence to the entrance to Hamath. It seems to me, therefore, more probable that it should be

sought on the north side of Hermon, since Banias could not be described as being in the valley of Lebanon, being in the Jordan Valley.

There is an important spring called 'Ain Jideideh, on the north of Hermon, on the road from Damascus to Beirut, and the plain here is called the Plain of Jideideh. This is close to the south end of the valley of Lebanon, and is at the foot of the north spurs of Hermon. The name comes from the root $\Delta\text{ج}$, the same from which the Hebrew Gad is taken. It appears to me, therefore, that no position could be more suitable for Baal Gad, and that the name is preserved at a spring, as are the names of several ancient cities in Palestine, such as Chezib, for instance.

NOTES ON THE QUARTERLY STATEMENT.

By MAJOR CONDER, R.E.

DR. POST's useful papers on the population sometimes apply rather to the Christian town population of Syria than to the peasantry of Palestine proper, or to the nomadic Arabs. Most of his statements I am able to confirm, as far as my six years' experience goes, but at times his experience is different to my own.

Pp. 110-111. The word *fûs*, pl. *fûs*, was usually applied in my hearing not to a hatchet (an instrument I never remember seeing among the peasantry), but to the common hoe.

For the axe the Turkish word *Balta* I found to be commonly employed.

P. 114. The form *murej* instead of *narej* for the threshing sledge can hardly be considered a "corruption," because it is the older form, being the Hebrew *morej*, and this is a proof of the archaic character of the peasant dialect.

P. 117. One custom in connection with the harvest, which may be regarded as superstitious or religious, Dr. Post does not mention, namely, leaving the corner of the field unreaped. Such a custom existed among the Celts in our own islands, and exists among the peasantry in India. In both cases the untilled part was sacred to the genius of the ground.

P. 121. The hyssop is often identified with the *Origanum*, as Dr. Post proposes, but Dr. Chaplin pointed out to me that the plant called *Mirvantiyeh* is used to the present day much as hyssop was used, and grows on the walls of ruins as the hyssop is described to have grown in the Bible. This is the *Satureia*, a kind of plant resembling mint, and believed by scholars to be the *ῥισσῶπος*, or hyssop of the Greeks. The *Zu'ter*, which is properly the thyme, never, as far as I know, grows on walls, and is therefore hardly to be identified with hyssop. It is very common on the soft chalky hills throughout Palestine.

Many of the plants enumerated show their foreign derivation by their names, and probably came into Syria in post Christian times—such as the orange, potato, and perhaps the mulberry. Others mentioned in my recent paper on Greek words used by the Jews are also foreign, such as the lupine, pea, rice, tomato. Tobacco is in colloquial speech *Dokhân*, “smoke.” The strong tobacco for the water-pipe is called *Tumbak*. The beech is unknown in Palestine itself. The *Derdâr* in the south is not a plane, but a thorny tree of the desert.

P. 126. As regards features, we observed that each village, as a rule, had its characteristic physiognomy, due to inter-marriage of the villagers, as I should suppose. In the north the type resembles that of the Assyrian monuments, in the south it approaches the Egyptian. The pure Arab type beyond Jordan is far more aquiline, and purely Semitic. The Christian population has probably much Greek blood in its veins, and often a good deal of Italian blood also. The peasantry may have Turanian blood of various stocks—from the Hittite down to the Turk. The Arab proper, in type and in speech, approaches nearer to the true Semitic type of Arabia. As regards height, I have met a good many very tall men in Palestine, especially in Philistia and beyond Jordan. The ugly ears of the Moslems—often bent down and always standing out—are accounted for by the great weight of the turban. The *temper* of Christian women is not, so far as I know, superior to that of the Moslem women. The recriminations of Christian women at the Well of Nazareth, for instance, are quite equal to those of their Moslem sisters. The beauties of Nazareth and Bethlehem are believed to have much Italian blood in their veins. Among the Druzes of Carmel I have seen a good many women quite as beautiful as any of the Christians, and others among the Adwân (who do not wear the veil) superior in type of aquiline beauty to any of the Christians. I have also personal experience of the very great muscular strength of many of the men, both among peasants and Arabs. Dr. Post's remark on this point (p. 127) seems rather to apply to the townsfolk. The keenness of eyesight and power of rapid observation, among the lower classes, is also worthy of notice.

I do not think that artists will agree with Dr. Post as to the want of taste among Syrians. The Oriental conception of colour is superior to that of most western peoples, as evinced both in costume and also in their fabrics.

The reasons for the position of towns and villages standing on heights appear to me to be: 1st, for security; 2nd, because the low ground near water is usually feverish. I doubt its being influenced by any particular love of scenery.

P. 134. Although the Syrians are very unpunctual, my experience always was that they were remarkably faithful to agreements, whether sealed or verbal. I have often entrusted muleteers with large sums of money, and never once lost any so entrusted. The sanctity of a trust is one of the strongest sentiments of the peasantry.

P. 137. The remarks as to the virtue of married women do not agree with what I have heard from other residents. Many clandestine meetings are arranged, in remote fields or unfrequented spots, and the lepers are often the means of conveying such messages. The poisoning common among women in Damascus is said to be mainly due to such irregularities. The morality of the herdsmen is also said to be notoriously bad.

The common word *Yallah*, used in all cases when "haste" is desired has, I believe, nothing to do with the name of God, or the invocation *Ya-Allah*, "O God," though this is the common explanation. It is originally a Turkish word from the root *yel*, "to hasten," and is probably adopted from the Turks, who are the persons usually most accustomed to 'hurry' their Semitic subjects.

P. 145. The assertion that "religion is universal" is not my experience. The Arabs have little religion, beyond a belief in the presence of their ancestral spirits, and of demons in general. They very rarely are found to pray. The peasantry also are very ignorant of the tenets of Islam, and their beliefs belong to the old superstitions of earlier days. Of these superstitions Dr. Post has as yet told us nothing.

P. 187. I must apologise for supposing Herr Schumacher's tomb at Shefa 'Amr to be the same I explored. The similarity is remarkable.

P. 189. As regards the derivation of *Millo*, we may with advantage refer to the derivation given by Gesenius, who does regard the *mim* as servile. He derives it from the common Hebrew and Arabic root "to fill," מִלֵּא, and renders it "mound," or "rampart."

THE GUTTER NOT NEAR THE FULLER'S FIELD.

By REV. W. F. BIRCH.

IN the astounding identification of "the conduit of the upper pool which is in the highway of the fuller's field" (2 Kings, xviii, 17), with the top of the Ophel shaft (*i.e.*, *the gutter*) Mr. St. Clair finds *good* (!) evidence (p. 190) that "the shaft was *outside* the wall." As this would ruin my gutter, let me apply a little healthy criticism to his paper.

He says, "The upper pool is believed to be the Virgin's Fountain." Commonly, the worse the error the more it is believed; yet he omits to add by whom or on what evidence such a thing is believed. He and I agree that the Virgin's Fountain represents Gihon, but that Gihon was identical with the upper pool is (so far as I know) only a conjecture of Mr. St. Clair's, improbable for at least two reasons. (A) Names of places are not interchanged in the Bible without a note of explanation; and

(B) the remains of the old conduit (*Quarterly Statement*, 1872, 48 ; 1884, 71) in the rock east of the Damascus gate (where I should place Golgotha), which conduit must have carried water to or from some pool, imply that an old pool existed at a *higher* level than Gihon. Such a pool towards the northern part of Jerusalem would more suitably be named "the upper pool." Josephus also speaks of *the fuller's monument* east of the Damascus gate, quite counterbalancing Eusebius' quotation from Hegisippus about *the fuller's club*. The commonly accepted site for the upper pool, west of the Jaffa gate, is also far more suitable than Gihon.

To strengthen his case, Mr. St. Clair observes that "The place spoken of is not really stated to be *in* the highway of the fuller's field ; for in the Hebrew text the word *in* is not found," and so he renders the words as at "the end of the channel of the upper pool, the stairway of the fuller's field." Here, surely, Mr. St. Clair trusts to his memory instead of *verifying* his reference, or else he goes to the Greek version for his Hebrew, since Is. vii, 3, gives  before *M'sillah*, while Is. xxxvi, 2, and 2 Kings xviii, 17, both prefix .

Further, one might ask why it should be probable that Hezekiah lived in David's former house rather than in Solomon's palace ; and why the Hebrew word that suggests (p. 189) that Isaiah went outside the city to meet Ahaz should not again suggest that Eliakim did the same to meet Rab-shakeh.

It is needless, however, to press even one of these objections until someone can devise answers to the fatal questions asked in *Quarterly Statement*, 1889, 207, where I pointed out that the gutter and the Siloam tunnel both refuted Mr. St. Clair's theory. *If* the entrance to the Ophel shaft had been *outside* the wall of the city, *i.e.*, if the city wall did not reach as far south as that entrance—

1. Why do we read in 2 Chron. xxxiii, 14, of "a wall without the city of David on the *west* side of Gihon, in the valley" ?
2. Why should Hezekiah stop "the upper spring of the waters of Gihon and bring them by a subterraneous course" (1890, 210) . . . to Siloam, where the enemy could draw the water just as easily, not to mention his going down by "the stairway" or Ophel passage (if outside the city wall) ?
3. What possible object could there be in making this rock-cut passage ? Why grope in the dark when you can walk in the light ?

It is pleasing to see (p. 190) that to suit the son of Amoz, Mr. St. Clair no longer objects to the Ophel wall extending "a little more southward than the wall found by Warren, though he objected to its extension (1890, 48) to suit the son of Zeruiah. Might it not be well at once to forgive the latter, and concede as many "little mores" as will reach to the Ophel shaft ? This single concession would remove the greatest blot from his theory. When he leaves the entrance *outside* the wall merely to

spite Joab and Araunah, Mr. St. Clair overlooks that the sole gain to any Jew or Jebusite using the passage would be that, while he was in it, he would not on a wet day miss his umbrella. In every other respect, to trip along the hill would be more enjoyable than to tramp through the gloomy dangerous passage.

Mr. St. Clair, nevertheless, is a good step ahead of my other opponents on the question of the age of the shaft. They with one voice attribute it to Hezekiah; he regards it as already existing in the time of Ahaz; but *why*, and *when*, and *by whom*, it was made, he prudently passes over in silence, though since 1878 only one answer has seemed to me possible.
